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Timber Conservation Board Holds First Hearing

Commission Recently Appointed by President Discusses Fundamental Economic Factors Affecting Forest Products—O. M. Anderson Advocates Tariff Protection for Pulp Industry—C. W. Boyce Analyzes World Wood Pulp Situation—R. S. Kellogg Surveys News Print Conditions—W. A. Munro Speaks for Great Lakes States.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 17, 1931.—Representatives of the paper, pulp and lumber industries were given an opportunity last week to appear before the United States Timber Conservation Board, recently appointed by President Hoover, to determine fundamental economic factors affecting the forest products industries. One day was devoted to a discussion of the paper and pulp industries and the other day to the lumber industry.

Among the paper and pulp representatives at the conferences were: R. S. Kellogg, secretary of the News Print Service Bureau; Charles W. Boyce, secretary of the American Paper and Pulp Association; Ossian M. Anderson, president of the Puget Sound Pulp and Timber Company, Everett, Wash.; and W. A. Munro, manager of the Munising Paper Company, Munising, Mich.

Foreign Dumping Serious

Mr. Anderson told the Board that with foreign dumping seriously hurting the domestic paper and pulp industry, that a 25 per cent *ad valorem* duty on pulp imports would do much to improve domestic conditions. If Congress is unable to levy this duty at the next session, he said, an emergency provision could be added to the anti-dumping law, providing that whenever prices of pulp, as offered by foreign producers at port of entry, are below the reasonable cost of production as corresponding to certain general averages which he presented, a special duty should be levied on imports corresponding to the difference in the stated average costs of the product from the domestic source and the prices charged by the foreign producers.

Mr. Anderson said that the average cost which could be used, would be $58 per ton for bleached sulphite, $45 per ton for unbleached sulphite, $50 per ton for bleached sulphate, $35 per ton for sulphate, $33 per ton for mechanical ground wood, and $75 per ton for rayon pulp.

A specific act of Congress specifying terms of enforcement of the already existing Anti-Dumping Law of 1921 relating to all goods now on the Free List, was recommended to the Board by Mr. Anderson. He also favored strengthening this law by a provision applying specifically to the importation of forest products or goods made from them and by providing an effective means of enforcement similar to the provisions of the Canadian law.

Charles W. Boyce told the Board that over-production of wood pulp is a world condition now, and new production can not be justified in this country until the world and national demand increases. There is a tremendous pressure in the industry, he said, to maintain the volume of production.

Mr. Boyce said that integration of the industry in Sweden and Finland has made it possible for those countries to meet most competition in world markets, and an increase in their output is likely, which will handicap American mills until other markets open up. Sales of Sweden and Finland, he said, have been concentrated in this country by the large Russian exports to European countries at prices assuring sales.

Sweden is the most important supplier of sulphate and sulphite wood pulp to the United States, Mr. Boyce told the Board. Prior to price decreases last year, the southern part of the United States could offer competition, however. Canada could compete only in bleached sulphite. Accurate information on the cordage of timber in the United States, Mr. Boyce said, is not available, and there is no indication in the wood industry of a shortage of pulpwood. The possibilities of Russia are not known.

Sunday Newspapers Smaller

Mr. Kellogg told the Board that a decrease in the size of Sunday newspapers having more than 100,000 circulation is in a large measure responsible for the unfavorable conditions in the North American news print business. The capactiy of the industry last year, he said, was 5,700,000 tons and the output was 4,000,000 tons.

"The industry broke its back in 1926 but didn't discover it until last year," he explained. Up to 1926, he said, the industry had an idea that consumption would increase indefinitely, and after that there was a big influx of new machines as a holdover from that idea.

"The largest Sunday newspapers reached a maximum size in 1925, but we didn't know it until afterward," Mr. Kellogg declared. There was a slow decrease from then until 1930, then a sudden drop up to the present. It is felt that there will not be a return to the large size papers of 1925, as the newspapers became so large they were uneconomic, Mr. Kellogg stated.

The daily newspapers of 100,000 circulation or over increased their size only gradually up to 1929 since which

(*Continued on page 30*)

Paper Chemistry Institute Corner Stone Laid

Appropriate Ceremonies Take Place at Lawrence College, Before Large Attendance, Including Many Leaders of Paper Industry—Ernest Mahler Officiates at Lowering of Stone—Dr. Julius Klein and Jesse H. Neal Address Gathering

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 15, 1931—Laying of the corner stone of the Institute of Paper Chemistry of Lawrence College, Appleton, Wis., and the graduation of the first students were events of the week occupying the attention of paper mill executives.

The imposing building which is to house the Institute when it reopens in September is rapidly taking shape. The corner stone was laid with appropriate ceremonies, and with a large number of persons present, including many of prominence. The box placed within the stone contains interesting documents and records concerning the founding and development of the Institute.

Ernest Mahler, vice president of the Kimberly-Clark Corporation, and president of the board of trustees of the Institute, spread the mortar for the stone as it was lowered into place. On the platform at the time were Jesse H. Neal, secretary and general manager of the American Paper and Pulp Association; Dr. Julius Klein, Assistant Secretary of Commerce of the United States; and Dr. Henry Merritt Wriston, president of Lawrence College.

Dr. Klein Discusses Business Depression

Dr. Klein, in his address at these ceremonies, said in part:

"We have seen what can happen when business soars into the clouds and forgets fact. Through facts business can be regulated and the bumps ironed out to create a stable level of business conditions.

"There is too much tradition in business today, and the work of the Institute is to obliterate this. Business should look toward the future, not the past. An inquisitive curiosity, such as recently led a chemist to make an artificial silk purse from fabric made from a sow's ear, thus proves false the old tradition that one can't make a silk purse from a false ear. That is what is needed. Chemists are to be the leaders in the search after fact and some of their discoveries are almost magic."

Considerable was said by Dr. Klein also about the business depression. "Disciplined precision is what a nation needs," he said, "and because of its superior education among the masses, the United States is better off than most countries. Many large concerns maintain private laboratories and colleges and universities are constantly conducting experiments and research, building up a foundation against future depressions, such as the present situation."

Jesse H. Neal Accepts Building

Acceptance of the building by the paper industry was expressed by Mr. Neal, who said it is a symbol of the trained experts it will turn into the paper chemistry field within the coming years. The corner stone of the new building, he said, is the corner stone of the present and future success of the paper industry, because it is from an institution of this sort that the future leaders of the paper and pulp industry will come.

Jubilation over the event marked a banquet held in the evening at the North Shore Country club, where Mr. Mahler was toastmaster. Graduates of the institute, Dr. Otto Kress, the director, members of the staff, officials of the college, paper manufacturers and others were guests.

Governor Praises Paper Industry

The principal speaker was Governor Philip F. LaFollette, of Wisconsin. He praised the paper industry for establishing an institution of this kind where all could co-operate impartially for the general advancement of the industry. He urged a fearless attitude towards the present business depression. During the World war, he said America utilized its brain power and man power to put into the field in record time one of the finest armies ever known to history, and put a quick end to the conflict. This was done against the greatest possible odds. America could repeat that feat in this depression if its best brains would come forth with plans to overcome the present situation, he said.

At the commencement exercises, ten students received their diplomas, after doing post graduate work for a year and a half. These are the first to complete their course since the institute was founded less than two years ago. The graduates, and the schools from which they came when enrolling, are: Edward Amstutz, Wooster College; Harold Bialkowsky, Massachusetts Institute of Technology; Richard Crain, Wooster College; Wilbur Cassiday, University of Iowa; Leon Foreman, University of Illinois; Harry Irwin, Simpson College; Edwin Laughlin, Ohio Wesleyan; Carl Schroeder, DePauw University; Carl Buff, Elmhurst College, and Roy Davis, Bates College.

Fox River Mill Improvements

Improvements are in progress at the main mill and the Telulah mill of the Fox River Paper Company, Appleton, Wis. The roof of mill No. 3 is being raised so as to give better operating conditions for machinery in the drying loft. The machinery originally was installed in the attic about twenty years ago, and workmen worked on a "cat walk" while tending the machines. The old roof has been torn off and the walls are being raised so as to make a full story. Steel girders will be placed overhead to support a new roof.

Added space is also to be provided at the Telulah mill. The space above the beater room is to be remodeled to give larger quarters, and in order to do this, a new roof is to be built. It probably will be necessary to close down the mill for several weeks until it is again under cover.

In order to take care of fifty workmen temporarily, those on short shift are taking turns repainting every building in the mill group. Thus men formerly working four days will be given five days so as to make their earnings more adequate for support of their families. About 35 men are employed on the construction job at the present time.

Gilbert Paper Co. Pensions Old Workers

Adoption of a pension system for old employees has been announced by the Gilbert Paper Company, Neenah, Wis. All men who have been employed by the company for not less than ten years and reach the age of 70 will be retired on 40 per cent of the pay they were receiving at that time. Men who have been employed with the com-

pany for forty years or more have the privilege f retiring on the same 40 per cent basis even though they have not reached 70. The plan goes into effect July 1. No workman emplyed oless than ten years will be eligible to the pension. The seventy year limit will be automatic in the future.

News of the Industry

Operations have been started for the season by the Newaygo Tug line, owned by the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis. The tug is used to transport pulpwood rafts from Canada across Lake Superior to Ashland, Wis. The first wood is expected to reach Ashland by the latter part of June, when the hoist there will be in operation to reload the logs for rail shipment. About forty men will be placed at work in the log yard on the loading work.

Employes of the Marathon Paper Mills Company, Ladysmith, Wis., enjoyed their annual picnic on Sunday at Prentice park. The day was spent in athletic amusements and dancing, and picnic dinners were served.

J. J. Plzak, safety engineer of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has been re-elected chairman of the Wisconsin Rapids Safety Council. Plans are now being made for another safety school next fall.

Wisconsin will be included in a survey of the pulp and paper industry in an attempt to gather information about the educational qualities of various men in the technical field, junior technicians and the operative field. The work will be headed by H. G. Noyes, director of paper and pulp mill educational courses for Wisconsin vocational schools. He conferred recently in Washington, D. C. with federal authorities and representatives of the paper industry.

George B. Maurer, 68, employed by the International Power and Paper Company, at the Marinette, Wis. branch, died last week. He formerly was superintendent of the old Island Paper Company, Menasha, Wis., and of the International branch at Oconto Falls, Wis. He died at Marinette and was buried at Appleton, Wis.

Takes Over Mt. Vernon Straw Board Co.

MT. VERNON, Ind., June 13, 1931.—The Mt. Vernon Straw and Paper Board Company has taken over the property of the Mt. Vernon Straw Board Company and will be in production June 15. The officers of the new company are Robert W. Stevens, president and treasurer, who is the former secretary and general manager of the Mt. Vernon Straw Board Company, Robert P. Stevens, his father, vice-president, who has had many years experience in the paper manufacturing business and who is well known throughout the trade, Fred T. Welborn, secretary, who was formerly connected with the Mt. Vernon Strawboard Company.

The plant will manufacture straw board and paper board of all grades and descriptions and combinations thereof and will sell mainly through the Graham Paper Company of St. Louis, Mo., although it will also sell through other sales agencies and also direct to the consumers. The company will operate two machines, one trimming 69 inches and the other trimming 83 inches and will produce about seventy to seventy five tons of board per day, under the brand name of "Madrite Board." Because of the experienced personnel and the low plant investment and other economies, the company will be in a position to furnish all of these boards at a minimum price and will be able to give the utmost in service and satisfaction to the consumer.

Plans for TAPPI Meeting in Kalamazoo

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., June 15, 1931.—The Technical Association of the Pulp and Paper Industry will hold its annual convention in Kalamazoo, September 23, 24 and 25. This is a gathering of the first importance in the paper trade and will bring to Kalamazoo between 300 and 400 delegates.

R. G. McDonald, New York, secretary of the Technical Association, was a Kalamazoo visitor on Tuesday of this week. At that time preliminary arrangements were made for the gathering. During the three days there will be transacted the usual business of the organization, technical papers, mill visits, luncheons and entertainment features. While none of the details are as yet completed, it is likely that one day's program will be in Kalamazoo, one day in Parchment and the final day at Gull Lake, closing with a golf tournament.

R. A. Hayward, vice president and general manager of the Kalamazoo Vegetable Parchment Company, has accepted the general chairmanship. The following subcommittees have been named: Administrative: W. J. Lawrence, Arthur Dreshfield and J. C. Wood. Program: Frank C. Whittington, Carl Schneider and Max Bardeen. Arrangements: Frank Libbey, Harry C. Bradford, Elbert Milham and C. E. Mueller. Publicity: W. Kent Kidder, Earl S. Weber and Ernest Turner. Ladies entertainment: Mr. and Mrs. C. L. Bachelder and Mrs. Frank Whittington.

This is the third national convention of the TAPPI to be held in Kalamazoo. The previous meetings were in 1917 and 1923.

Ingalls Mills Sold

[FROM OUR REGULAR CORRESPONDENT]

CASTLETON, N. Y., June 15, 1931.—The paper mill property known as the Ingalls Mills has been sold to the Mohawk Chemical Corporation, of Schenectady, and is to be used in housing a new industry. The plant was constructed four years ago by E. H. Ingalls, president of the company, for the manufacture of paper. Some time ago the company encountered difficulties which resulted in the floating of a bond issue for $72,000, the National Bank of Albany becoming trustee. Operations were suspended, however, about two years ago and the plant has been idle since that time.

Arrangements for the sale were started through the local Board of Trade which is given credit for bringing the new industry here. The Schenectady concern plans to start operations within a few weeks and expected to employ a few hundred workers when running at full speed. The sale price for the property could not be learned.

Loomis Talc Co. Reports Improvements

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., June 15, 1931.—A general improvement in industrial conditions in this section is noted and the talc industry has shown the best gains in recent weeks. The Loomis Talc Company reports its two mills and mine in the village of Fowler now operating at capacity with day and night shifts necessary because of a larger volume of orders. Officials claim that business is on the up-grade and are optimistic in regard to the talc industry. Nearly 300 workers are being employed steadily by the company. A marked rise in orders during the past few weeks is also noted by the International Pulp Company and considerable quantities of talc are being shipped from the warehouses. Both of its mills are running on full time schedules.

Demand for Paper Declines in Philadelphia

Fine Paper Market Experiences Seasonal Lull, Although Values Are Holding Up Steadily—Coarse Paper Specialties for Summer Use In Excellent Request—Expansion of Cellophane Industry Affects Glassine Consumption

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 15, 1931.—Though general lines of paper continue to show a seasonal decline there is a growing market for specialties in both manufacturers' requirements and for food and mercantile trades. Summer paper specialties are particularly active, indicating preparation for hot weather. Sanitary goods and waxed papers, as well as cellophane grades, all move more freely. While the few manufacturers who specialize in glassine papers report fair consumption, the inroad of cellophane on the glassine trade is driving converters of these papers into the cellophane division, or into experimentation with papers that will substitute.

Several large converters of glassine products are adding equipment that enables the production of cellophaned paper goods that make up cellophane wraps and sacks for a wide variety of uses. Considerable expenditure is being devoted to addition of cellophane converting machines equipped with printing units. Other converters of paper products are experimenting with cellophane and paper combinations, with a view to substitution for glassine and similar papers. The use of cellophane in combination with paper board for cartons is also a field that is growing and occupying the attention of converters.

The prominent manufacturers of glassine and similar papers are convinced that there is but one way to offset this inroad of cellophane on these legitimate trade lines. They believe that the glassine mill men should get together and by national advertising promote broader consumption of glassine and its converted products. A national slogan or educational campaign should be adopted following research in convincing advertising material that could be used in promotion of its use. Its comparative wide usage in many fields where cellophane is now making inroads would be of great advantage to the industry if given national publicity, these expert glassine manufacturers state.

In the fine paper market there is a steady tone in values. A seasonal lull has set in among wholesalers, and distributors report quieter hand to mouth stocking among consumers in the printing and advertising trades. Dealers in greeting card stocks, box makers' papers of the fancy grades, and social announcements, such as those used for wedding, state that there has been a seasonal picking up. Card boards are highly competitive while book papers, the most active of the grades featured in bulk purchases, are also subjected to keen bidding.

Seasonal demand for specialties keeps wrapping paper dealers active in meeting orders for hot weather requirements with sanitary products such as drinking cups, towels and allied lines moving in growing quantities. Outing paper goods for camping and tourists parties show the vacation time demand. All grades of paper stock and rags, with exception of wiping grades, are draggy and at low prices. Mills continue uninterested, and with so free an offering of the cheaper grades, prices are made at the manufacturers will.

Paper Trade Golf Tournament

There will be played on June 30 the annual paper trade golf tournament for the championship cup for 1931. Arthur B. Sherrill; Hal Sorensen, of the Beck Engraving Company; and Irwin Megargee, of Curtis and Bros. company; form the committee for arrangements of the tournament. This year the golf tournament will be staged at the Aronomink Club. The afternoon will be given over to the golf contest, instead of the full day program as has been customary in past tournaments.

Leroy S. Bishop Honored

Leroy S. Bishop, member of the firm of Raymond & McNutt, fine paper and social stationery manufacturers, Sheridan Building, has been appointed a member of the Credit Committee of the National Paper Trade Association. He is in charge of the credit division of Raymond & McNutt, and is treasurer of that company.

Paper Trade Meeting Postponed

Meeting of the Fine Paper Division of the Philadelphia Paper Trade Association, which should have been held last Wednesday, has been postponed until late June. Announcement will be made later of the date.

Scott Paper Co. Expansion

Having announced previously plans for installation of a new record breaking speed machine for the manufacture of its line of sanitary tissues, the Scott Paper Company, last week, began work on the foundation for its installation. The new machine is really a reconstruction of a former unit which will be entirely torn out and a new machine erected and which will have a speed of 1,200 feet per minute and will be 180 feet in width. The new unit is being installed by the Moore & White Company. It is the speediest of its kind in the world. The General Electric Company is installing the motors and drives, of the sectional type. This is the third high-speed machine to be installed by the Moore & White Company, paper machine builders, with headquarters at 17th street and Lehigh Avenue, this city.

Big Year Anticipated

In commenting on the outlook for his company during the remainder of 1931, E. S. Wagner, vice president and treasurer of Scott Paper Company, strikes an optimistic note amidst general gloom of business depression. It is likely that the company will report increased sales and earnings this year as a result of its operations. "I believe that results of the company for the first quarter of this year are indicative of what may be expected for the remainder of the year," states Mr. Wagner.

The recently issued report showed that sales for the first three months of 1931 amounted to $2,429,878 compared with $2,274,765 in the corresponding period of 1930, a gain of $155,113, or 6.8 per cent. Net income for the period amounted to $303,974, equal after preferred dividends to $1.63 a share on 162,253 shares of common stock outstanding, compared with $284,565, or $1.57 a share in the similar quarter of 1930. That the company was able to translate the sales increase into larger earnings is evidenced by an advance of 6.8 per cent. in net income for the quarter compared with the period a year ago. This gain was identical with the sales increase.

Referring to the quarterly report, Mr. Wagner states that sales in the first three months of the year usually are

seasonally higher than in succeeding quarters. "This is due to several factors," he declares. "One reason for large first quarter business is the fact that many retailers allow their stocks of goods to run down during the Christmas season. Replenishment means an increase in our volume. Furthermore, the early months of the year seem to be a time for general checking up on supplies—a virtual housecleaning operation—which usually yields us an increase in business."

Speaking of current operations, Mr. Wagner says that while actual figures are not yet available on April business, indications are that the month showed about the same rate of increase in gross sales as was shown in the first quarter. "Our good showing in 1930 and the first three months this year," he declared, "is due, I believe, to the fact that Scott Paper Company, through its aggressive and consistent advertising policies, is getting a large share of the new business that becomes available each year in our field.

Growth in Sales and Earnings

Growth in sales, and consequent growth in earnings, according to Mr. Wagner, are also the result of a long-continued policy of the company in improving the quality of its products. "Our company," says Mr. Wagner, "has become well known throughout the entire United States and in most foreign countries where we enjoy a reputation for uniformly dependable standard products. While a recent downward revision of prices probably does not have any outstanding stimulative effect on demand for our output, the adjustment serves to show purchasers that this company now, as in the past, is willing to pass lower costs on to consumers as they become available."

Waste Paper Institute Chapter Planned

Members of the Philadelphia Wholesale Waste Paper Merchants Association, Paper Stock Division, will meet at the Benjamin Franklin Hotel, June 17, to organize a Philadelphia Chapter of the Waste Paper Institute now in process of formation in all the leading cities. The active mover in the organization of the Quaker City Chapter is William J. McGarity, Sr., head of the Penn Paper and Stock Company, secretary of the Philadelphia Wholesale Waste Paper Merchants Association, and leader in all movements of benefit to the waste paper industry and mill supply trade. He will bring together the members of the paper stock division in the organization of the Chapter and will preside at the opening session on Wednesday.

The Waste Paper Institute is being formed in the industry to promote closer co-operation of the wholesale waste paper merchants, with a view towards educating dealers how to pack, save costs of handling, and to work along with the paper manufacturers in other phases of co-operative work that will materially aid both mills and dealers. These Chapters will further co-operate through the Waste Paper Institute with the Paper Board Industries Institute, and will hold conferences with that group on matters pertaining to mutual interests.

Holiday Tissues Introduced

M. L. Beistle, manufacturer of holiday tissues for wrapping, decorative and converting purposes, Shippensburg, Pa., was a visitor to the Philadelphia trade, introducing the 1931 line. The firm specializes in the manufacture of these specialties and has Metropolitan headquarters at 200 Fifth Avenue, New York.

A and C Supply Co. Enlarges Paper Division

Specializing in the supply of papers and accessories to the laundry trade, the A and C Supply Company, of which Philip Cooper is head, with offices and warehouse at 2311 North 8th street, is planning to develop larger paper distribution. The firm has supplied the laundry trade for several years and recently decided to develop the paper department which also distributes paper cardboards and twines. Under the expansion, the paper stocks will include a variety of lines for manufacturers.

American Paper Products, Inc., Adds Unit

For the purpose of producing paper tubes with caps, the American Paper Products, Inc., 2113-17 East Rush street, has added to its manufacturing equipment, machinery for the manufacture of paper caps. The cap presses will be devoted to production and capping of paper tubes with caps at both ends. Heretofore the firm, of which Charles Halbert is head, has confined production to paper tubes for mailing purposes, ribbon blocks, thread and textile cores. With the new unit, the lines will be extended to include paper tubes for use by drug and other industries where dry and powdered products are packed in tube form.

Fischer Paper Co. Transfer Business

The business of the Fischer Paper Company recently established at 314 North 3rd street, has been transferred to B. Kessler, in the Reading Terminal Market. The Fischer Paper Company was involved in bankruptcy proceedings over a year ago and was reorganized by S. Fischer at the North 3rd street address. Mr. Fischer is now in Florida and on his return will be attached to the Kessler staff.

A. Richard Hartung Returns From Abroad

A. Richard Hartung, of A. Hartung & Co., 506 Race street, who has been abroad for the past month or so, returned to his desk this week. He has been enjoying a short vacation trip on Continental Europe.

Morgan Thomas Back From Europe

President Morgan H. Thomas, of the Garrett-Buchanan Company, 14-20 South 6th street, who for the past month has been sojourning in Europe, returned to his desk last week.

Bound for Strathmore Convention

Associates of the Philadelphia paper trade who will journey to West Springfield, Mass., to attend the sales convention and outing of the distributors of the Strathmore Paper Company, beginning June 16, are President N. A. Considine, Paper House of Pennsylvania; Leon Beck, Charles Beck Paper Company, with sales promotion manager Charles W. Bond of that firm; A. Richard Hartung, A. Hartung, Inc.; Leonard Raymond, Raymond & McNutt; Charles F. Papst, Paper House of Pennsylvania; and L. E. Gipp, Raymond & McNutt. All are distributors of Strathmore papers.

Russia To Add Four Paper Machines

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 15, 1931.—Reports from Russia indicate that the production of paper this year has been set at 611,000 metric tons according to Commercial Attache Lund at Oslo.

The installation of four large paper machines is contemplated which will have an annual production of 20,000 tons. One of these will be added to the present plant at Balachna, where two machines are already in operation. The construction of a chemical pulp mill has likewise been decided on. One of the governing committees has been instructed to work out a program for the building of machines, in which the assistance of foreign experts will probably be sought.

Canada Power & Paper Reorganization Progress

General Impression Is That Plan Will Go Through, Despite Criticism From Some Shareholders of Proposals of Protective Committee—Changes In Management Expected to be Sweeping and Satisfactory to All Concerned.

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 15, 1931.—The affairs of Canada Power and Paper Corporation are still hanging like a dark cloud over the newsprint industry here, for uncertainty still prevails as to whether or not the holders of the securities of the various companies represented in the corporation will agree to the reorganization plan proposed by the Protective Committee.

The general impression seems to be that the plan will go through, despite criticisms in various quarters from shareholders who appear to be taken aback at the disclosure which the plan makes of the extent to which the securities they owned in individual companies taken over by Canada Power have depreciated.

The shareholders of the former Belgo-Canadian Company held a meeting to consider the plan last Friday, but the expected explosions did not take place, and in the end a sub-committee was appointed to see if better terms were possible.

Prior to this meeting, the Hon. C. A. Dunning, chairman of the Protective Committee, had announced that an increasing number of large shareholders were each day indicating their intention to support the plan, and that the committee were quite hopeful that as the various groups investigated the situation they would come to an appreciation of the difficulties which had to be solved and realize that the proposals were in the best interests of all concerned.

The proportion of securities to be deposited to carry out the plan is as follows: bonds, Canada Power and Paper (debentures) 51 per cent; Anticosti, 51 per cent; Belgo-Canadian, 66⅔ per cent; Laurentide (new bonds) majority; Port Alfred, 51 per cent; St. Maurice Valley, 51 per cent; Wayagamack, clear majority. As to the preferred stocks, it will be necessary to deposit a majority of each issue.

Only upon these stipulations being compiled with will the committee be able to announce the plan as in operation.

The time for deposit of the securities is up to and including July 15, though the date may be extended by the committee. The committee reserves the right to declare the plan abandoned at any time, even if it has already been declared operative. Any time the plan goes into operation, the committee may modify it or adopt a substitute plan.

There will be eleven directors, of whom four will retire annually and be eligible for re-election; the remaining seven will retire at the annual meeting in 1936. At the annual meeting in 1936 and at each meeting thereafter all directors will be elected for a term of one year in the usual manner.

As to the new directors or management it is announced that although a definite statement cannot be made at present, the changes will be of a sweeping character and will be satisfactory to those who have not been content with the policies of the Canada Power and Paper Corporation.

New Zealand Closes Market for Paper

The New Zealand government has decided to withdraw the British preference previously accorded Canadian goods, and as a result has virtually closed the market for Canadian wrapping paper and for several grades of sulphite paper, an exception being newsprint.

The situation directly affects paper mills operating in British Columbia, notably Pacific Mills, Ltd., at Ocean Falls, a subsidiary of Crown-Zellerbach Corporation, of San Francisco, and Westminster Paper Mills, of New Westminster.

Gatineau Paper Mills at Capacity

G. J. Lane, manager of the Gatineau mills of the Canadian International Paper Company, announces that the mill is now on full time operations. The 1800 employees of the plant are working 24 hours a day, six days a week, on 8-hour shifts, instead of five days a week, as during the winter. The mill has a capacity of 650 tons of newsprint per day.

Abrasive Firms Merge

[FROM OUR REGULAR CORRESPONDENT]

WATERVLIET, N. Y., June 15.—A consolidation of the Behr-Manning Corporation, of this city and the Norton Company, of Worcester, Mass., has just been effected which represents a pooling of interests amounting to about $23,000,000. The linking of these concerns incidentally means that the new Norton Company, as the holding corporation will be known, becomes one of the most important units in the country in the production of abrasives. The Behr-Manning concern makes a specialty of turning out sand and emery papers with other abrasive products and employs several hundred workers. Abrasive machinery is manufactured by the Worcester firm and it employs nearly 1,000 employees. The amalgamation of the two companies places them in a commanding position in their field and plans call for continued operation of both under their present names and management in addition to their manufacturing and sales organizations.

The terms of the merger are expected to result in the placing of John A. Manning and Frank E. Gallagher, president and general manager of Behr-Manning, respectively, on the board of directors of the Norton Company while Aldus C. Higgins and W. LaCoste Neilson, treasurer and vice president respectively of the Norton Company, will probably take places on the Behr-Manning board. The merger is expected to result in a change in the capital stock structure of the Norton concern, a Massachusetts corporation, in order that it may serve as the holding organization for both units, having an authorized capital stock of 2,300,000 shares of $10 par value, of which 2,231,513 shares will be issued. Officials claim that the benefits of the amalgamation should be visible in diversification of interests, economic savings in operation and management, greater financial strength, and the increased advantages for development along research and technical lines.

Organization of the Norton Company was completed in 1885 at Worcester and it is regarded as pioneers in the development and manufacture of abrasives by furnace process. The company maintains plants at Bauxite, Ark.; Chippewa and Hamilton, Ontario; Wesseling, Germany; Paris and Welwyn Garden City, Eng.

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4915

Chicago Paper Market Conditions Unchanged

Fine Paper Situation Continues Fairly Satisfactory, With Writing, Book and Cover Papers Moderately Active—Demand for News Print Paper and Ground Wood Specialties Irregular—Board Market Affected By Over-Production

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 15, 1931—Market conditions in the Chicago area are little changed over last week. Orders are coming in at about the same rate as in the past few weeks and this fact is taken in an optimistic vein by Chicago paper representatives. If orders can hold about the same volume with the summer dull season coming on paper merchants feel that conditions are at least no worse, and, in a number of cases, somewhat improved. There is a tendency to believe that no drastic price cuts will come in to upset the slow improvement going on. The price situation is now reported to be reflected in the natural efforts of salesmen to get business in extremely dull times. While this type of price cutting is regrettable, it is said to be a normal condition at such a period. The big difficulty, of course, is that even the slightest price cut brings down the profit to nothing at all.

Book and cover papers, now over the spring season, are going into a summer period of quiet but with conditions, as far as price and demand are concerned, fairly good. Fine papers in general expect a real improvement in the fall. News print and ground woods continue to go along spasmodically, with little change over the past few weeks. Parchment papers are in fair demand. Glassines continue sluggish, while the board market, feeling the effects of over-production, goes into the summer season with a determination to catch up on the slack in time for Fall pickup. Waste papers continue dull, with little or no price changes.

Warren Moore Addresses Paper Salesmen

The final meeting of the Middle Western Division of the Salesmen's Association of the Paper Industry until after Labor Day was held on Monday, June 8, with Warren Moore, of the Brown Company, having the honor of being the final speaker in an unusual series of luncheon programs featuring exclusively home talent, with the single exception at the time when the advertising manager of Champion appeared. The Monday sessions will be supplanted by the monthly golf tournaments, of which the second will be held on June 19 at the Long Beach Country Club, Michigan City, Indiana.

Mr. Moore gave an unusually interesting discussion of the products and policies of the Brown Company. His organization has been doing a great deal of research work in the pulp and specialties held and the results of some of this work, as described by Mr. Moore, were of quite a bit of interest to those in attendance. Incidentally, the attendance at the last luncheon program was one of the largest turnouts enjoyed by the association for some time.

In winding up the regular series of weekly meetings at which salesmen talked, describing the products, policies and programs of their concerns, the Middle Western Division recommends the home talent procedure as a sure fire way of stimulating and retaining interest in association activities. Each sales executive displayed a tendency to improve on the talk of his predecessor and each showed that he had given considerable time and attention to the preparation of his material.

Paper Merchants Discuss Banking Situation

The closing of a large number of Chicago banks, all in the outlying neighborhoods, and all following on the merger of the Foreman and First National banks and the Central Trust Company and National Bank of the Republic, all loop institutions, was the subject of discussion at the regular session of the Chicago Paper Association, held on Tuesday evening, June 9, at the Bismarck Hotel. The banking situation made the subject of credits an unusually timely one and the members of the association present discussed fully the procedure to follow in the face of what is certain to be a stringent period as far as credits are concerned.

The association definitely decided that all credit matters should be handled by the individual firms in a manner best fitted to their conditions. The association expects to look for credit troubles in the retail structure and states that it is probable that the industrial group will also suffer because of the tieing up of funds. Without going into the banking situation at length it is sufficient to state that the great majority of the outlying banks closed to protect depositors and stockholders from runs started only because of the general unsettled banking situation and not through any inherent weakness.

News of the Trade

Bill Tilden, of the Chicago sales offices of the Eastern Manufacturing Company, will return to Chicago next week after a two weeks combination vacation and business trip in the East. Mr. Tilden is spending a part of his time visiting the Eastern mills.

Through the Midland Paper Company, Moser Paper Company, and Parker, Thomas & Tucker, all Chicago distributors, the Aetna Paper Company, of Dayton, Ohio, is featuring an interesting advertising folder on Correct Bond. The cover of the four page folder depicts an interesting hunting scene and the title "As Correct As the Pink Coat Riding to Hounds." Inside copy calls attention to the error in stating that the color of a riding coat is pink rather than scarlet and provides an opportunity for Aetna to open up an interesting sales talk on the age old desire for correctness—with Correct Bond described as "The Letterhead Paper," clear even whiteness, strength and surprisingly moderate cost.

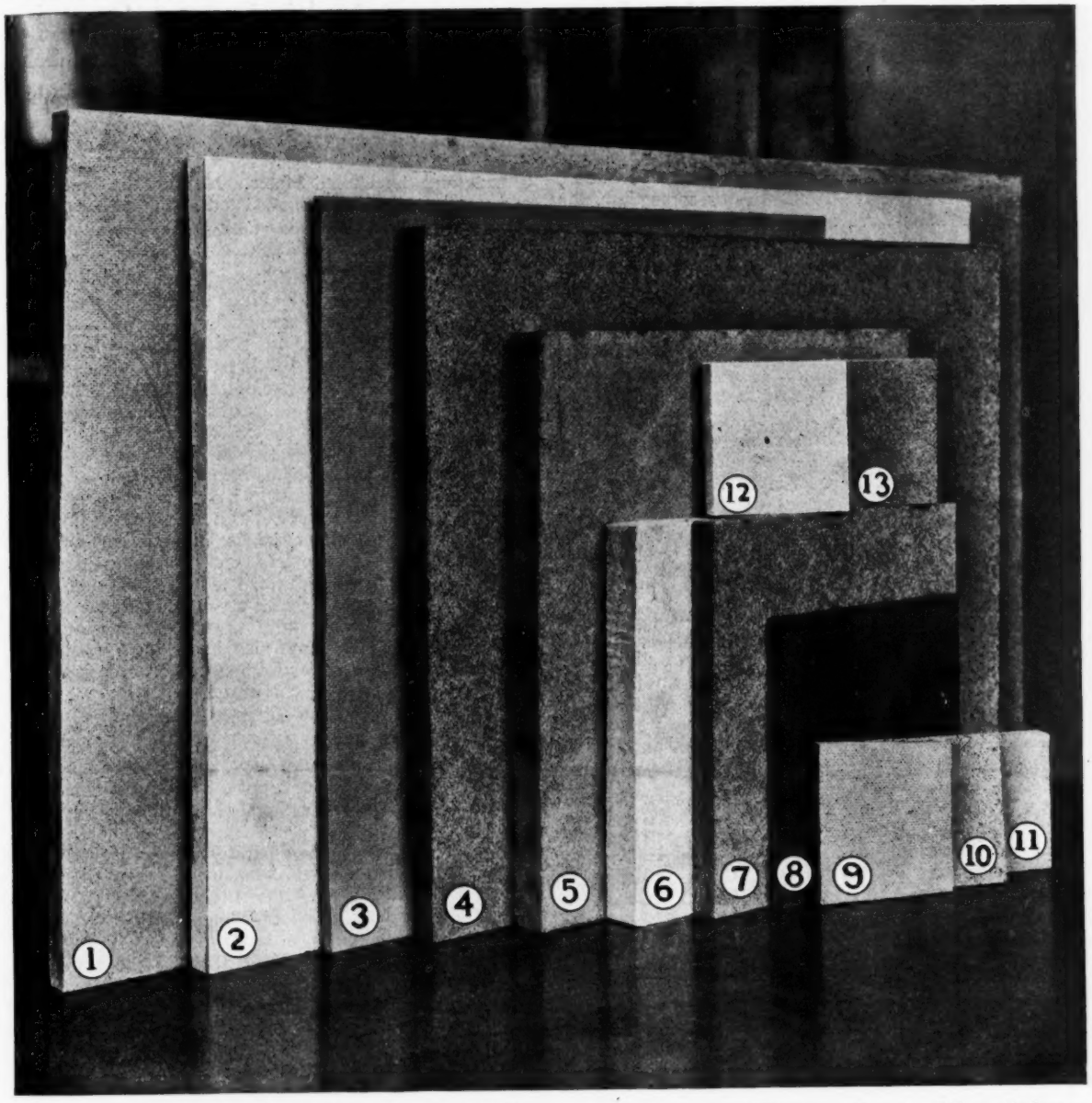
Number 32 of Rags in Paper, published by the Rag Content Paper Manufacturers, gets attention in Chicago because of its always interesting copy story. Number 32 tells about "The Quality of a Good Sheet of Paper." Excellent use of type, making for easy reading, carries the reader into a well written essay on the qualities of real bond paper—weight, feel, strength and finish—qualities that can always be recognized in good bond products.

Morden Machine Co. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., June 12, 1931.—The Morden Machines Company has been incorporated with a capital stock of $50,000 by C. W. Morden, Darrah Corbett and R. R. Rankin. Mr. Morden is the inventor of machinery now in use in a number of northwest paper mills and the new company will act as engineering consultants in addition to manufacture and general research work.

Materials of Fibrous Nature Made into Saleable Board



On a NEW Radically Different Type Forming Machine

Downingtown has produced a new type of Board Forming Machine of radically different construction, purposely designed for the requirements of the industry. Waste products of saw, sugar and steel mills and other industries can be converted into a saleable product. The above samples show various fibres made into board of various thicknesses up to 1¼", as follows: (1) yellow pine, 1"; (2) spruce, 1"; (3) cane bagasse, ½"; (4) licorice root, 1"; (5) straw, 1½"; (6) mineral wool, 1¼"; (7) cane bagasse, 1"; (8) redwood, ½"; (9) straw, ½"; (10) licorice root, ½"; (11) cane bagasse, ½"; (12) white cedar, ¾"; (13) cane bagasse, ¾". The Downingtown Board Forming Machine will produce up to 300,000 square feet of ½" board in 24 hours and proportional amounts of board up to 1½" thick. Write us for information about the machine and sample boards from your waste material.

Downingtown Manufacturing Company, Downingtown, Pa.

Ontario Paper Mills Are Operating Steadily

Fine Paper Manufacturers Well Employed, Although Operating on Slightly Reduced Schedules—Book Paper Plants Are Particularly Busy on Orders for Immediate Requirements —Quotations to Wholesalers Readjusted

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, June 15, 1931—Predicted for some time, the Canadian paper mills have at last reduced prices to the wholesalers. It was announced this week that mills manufacturing fine papers had arranged a downward scale of quotations on most lines of fine papers, including book, coated stock, sulphite bonds, ledgers and writings. The schedule of new prices has not yet been issued and there may be some slight changes before the list is finally placed in effect. Wholesalers will immediately readjust their lists and it is hoped that now the uncertainty regarding the trend of prices is over there will be renewed buying by distributing and consuming sources.

In the meantime the paper merchants are operating lightly and are only booking small orders. There has been a general hesitancy on the part of the fine paper buying public and extreme caution has marked the paper market in every section. The drop in prices should at least loosen up things to some extent in the fine paper field. The coarse paper mills readjusted their prices some time ago and no rearrangement of quotations for wrapping and similar lines is looked for just now in that quarter. The coarse paper market has been somewhat unsatisfactory for some time and sales, both by the mills and the distributors, have been light.

Paper manufacturing operations are proceeding steadily but with no volume of business ahead. Book paper mills are perhaps the busiest but none of the fine paper manufacturers have any volume of business ahead of their machines. Most of the plants, however, are well employed, and while not operating at capacity, are able to keep all plants operating on a slightly reduced scale. The light weight paper market is in good shape and there is no lack of orders for fancy and plain tissues. Paper converting firms could handle a good deal more business than is coming their way. Envelope making firms, for instance, are going through a somewhat quiet time, with demand light and no immediate prospect of a return to satisfactory business. Board mills are still operating lightly and requisitions by the paper box industry for board are very light just now. Demand for wrappings and paper bags is light.

Pulp and Paper Matters Considered

Many problems connected with the pulp and paper industry, and particularly those relating to merchandizing of the product, were discussed at a meeting of the pulp and paper group of the National Association of Purchasing Agents, at the annual convention of the organization in Toronto last week. George W. Browne was the presiding officer at the sectional meeting and among the papers read were the following: "Paper Mill Felts," by A. B. Johnson, Pejepscot Paper Company., Brunswick, Maine; "Pulp Contracts," by J. L. Mousley, Federal Paper Board Company, Bogota, N. J.; "Commodity Survey," by R. B. Thomas, Dill & Collins Company., Philadelphia; "Clay," by O. W. Callighan, Edgar Brothers, New York. All of the papers were under free discussion and a lot of useful information was brought out for the guidance of the men who do the buying for the pulp and paper industry of Canada and the United States. Most of the leading mills of both countries were represented at the gathering.

Paper Exhibits at Big Convention

Products of the Canadian paper industry were on display at the convention in the Royal York Hotel in Toronto of the National Association of Purchasing Agents. The most ambitious of these exhibits was an attractive booth showing the many paper lines produced by the Howard Smith Paper Mills, the booth having been designed and carried out by Neill Powter, of the company's advertising department. The background of the exhibit was a composite picture of the company's various mills and under a flood lighting effect there was a steady and actual flow from the plants of the firm, demonstrating that paper is the life blood of business. Carried on an endless belt automatically driven, came business forms, lithographed work, letter press, offset, labels, bristols, cards, blotting, folders, broadsides, booklets, etc., all done on Howard Smith products. There were also folding and set up boxes bearing Howard Smith stock and the entire exhibit attracted much attention and favorable comment. Copeland-Chatterson Company, also had a good display and the Hinde & Dauch Paper Company, Toronto, had a booth displaying their lines of corrugated cartons.

News and Jottings of the Trade

C. V. Syrett, of the C. V. Syrett Paper Company. Toronto, was in Montreal a few days ago attending a meeting of the coarse paper section of the Canadian Paper Trade Association. Meetings of the section were later held in Toronto.

S. R. Armstrong, general manager for the receiver of the Canadian Paperboard Company, Ltd., in an interview this week, stated that under the circumstances it must be considered that the bondholders of the company were being reasonably well protected. He hoped that market conditions would improve and after a period of over a year in charge of the plant he felt there was every reason for satisfaction with the results so far achieved.

F. T. Jenkins, assistant woods manager of the International Paper Company, Newfoundland, has severed his connection with the latter organization and is now connected with Canadian Airways, Ltd.

The main Riordan mill at Merritton, Ont., one of the oldest paper mills in Canada was destroyed by fire a few days ago. The loss is negligible, as the Riordan mills have lain idle for years since the property was purchased by the International Paper Company and the plant closed down. The machinery had recently been sold as junk.

Extent to which the pulpwood industry in Northwestern Ontario dropped last year is indicated in the report of J. H. Wilway, Crown Timber Agent at Port Arthur, that 175,625 cords of pulpwood were cut in the Port Arthur, district in 1930-31, as compared with 542,087 cords the previous season. In 1928-29 total cords taken out were 279,983 while in the year previous, 1927-28 the total was 451,062 cords.

George Davidson, sales manager of the Howard Smith Paper Mills, spent some days at the Toronto office of the company last week.

Get That Elephant

. . .

But don't use a bird gun

The "bigger and better business" elephant is all set to break out into the clearing. And what gunning there'll be for a share of his hide. Then you'll see the "depression moaners" taking pot shots with bird guns and bewailing their luck while the alert, fore-minded hustlers bag the profits with express rifles.

Are things slow? Then it's a perfect time to take stock of your equipment. Find out if it's "shot gun" or "rifle". Modernize it, get it in shape for speedy, economical, big time production, for you'll need to do some fast, snappy, straight shooting when things break.

We'll help, — as we've helped a lot of mills recently. Help you analyze your equipment's shortcomings; help you determine what needs rebuilding or repair; what needs replacement. And we'll do the job, with a sympathetic appreciation of your problems, your needs and your finances. Let's talk things over — NOW. A word from you will bring one of us. Write, wire or 'phone.

The Bagley & Sewall Co.

67

Watertown, N. Y.

PRINTED IN U. S. A.

Boston Paper Trade Association's Outing

Despite Inclement Weather, Event Proved One of Most Successful Ever Held in History of Organization—During Brief Business Meeting Many Prominent New England Paper Men Were Elected to Membership of Association

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 15, 1931—Despite the rain, the regular June meeting and outing of the Boston Paper Trade Association was one of the most successful in the history of the organization, with 111 or more members and guests present. There were two gathering-places for the affair, with the dinner and business meeting at the Hotel Preston, Beach Bluff, Swampscott, Mass., June 8, and the Salem Country Club, Peabody, Mass., as the rendezvous for the golf tournament and luncheon the following day.

Members of the party arrived at the Hotel Preston the latter part of the afternoon and until dinner was served, passed the time renewing old acquaintances and making new ones and going to the ocean-side where part of the sports program was followed out.

New Members Elected

At the festive board President Albert R. Smith opened the business meeting, calling attention to the monogram, B. P. T. A., inscribed on the windows of the dining-room. Names of candidates for "regular" membership were read, and on motion of Charles H. Wood that the secretary cast one ballot, all were elected.

The new members are Richard B. Anderson, Springfield, Mass., proposed by E. D. Bement; William H. Anders and T. K. Davies, both of East Pepperell, Mass., proposed by Karl H. Ways; Carl E. Lincoln, North Leominster, Mass., proposed by Charles H. Wood; John R. Whitney, Springfield, Mass., proposed by John A. Andrew; George E. Bardwell, South Hadley Falls, Mass., proposed by Charles S. Proctor; Thomas Casey Greene, Boston, Mass., proposed by J. L. Munro; Edward A. Sitzer, Lee, Mass., proposed by John A. Andrew; and George W. Wise, Jr., Boston, Mass., proposed by John A. Andrew. After the election the other members rose in their honor.

President Smith Honored

Following this portion of the business meeting was a delectable interlude, in which "Amos 'n' Andy," of the "Unnational Paper Company," cleverly impersonated by E. D. Bement and Floyd H. Blackman, broadcast hits on several members of the trade, bringing roars of laughter from the audience.

President Smith was then presented with a silver putter, appropriately inscribed, a gift of the association. He expressed his deep appreciation for the present.

A toast, proposed by Charles H. Wood, was given to John E. A. Hussey, as dean of the Boston paper trade, and Mr. Hussey thanked all for the honor.

Herbert C. Ham, chairman of the sports committee, announced the winners of the events which had taken place that day. Some of them were postponed until the next day on account of the unfavorable weather.

Most of the party stayed overnight at the hostelry, leaving the next morning for the Salem Country Club.

Attractive Sports Program

The sports program elicited much merriment. The "chance of a lifetime" consisted in digging in the sand for ten treasures, and "Jim Sweet," of the American Writing Paper Company was the first to find one of the objects concealed, receiving as a prize a silver bowl. Diminutive shovels, hoes and rakes were used in this contest. Even after the prize was won, a few of the contestants continued to dig to see what treasure was left. T. C. Greene found a fifty-cent piece, although this was not on the program.

"Digging for business" consisted in shoveling sand into pails, with "Ted" Lyman, of the Missisquoi Corporation, Sheldon Springs, Vt., winning a silver dish. In "shear strength," cutting sheets of paper into long strips, there was considerable competition between the fine and wrapping paper men, and Willard H. Loud, of Stimpson & Co., Inc., was the winner, receiving a silver sugar bowl. The other events were run off at the Salem Country Club. "Bowling in the rough" was won by Herbert Lindenberg, of *Paper Mill*, with a silver mustard dish as prize.

The name of the event, originally announced as "catching horseshoe crabs," was changed to "following the horseshoe trail," The winners were a team composed of Herbert Casey, of Casey, Bigley & Co., and Jack O'Brien, of *Paper Mill*, who received a silver bread tray and silver card tray, respectively. Prizes for the highest scores in "putting on the green" went to John Kuster, of the Andrews Paper Company, a silver compote, and to J. L. Ham, of Arthur E. Ham & Sons, a silver sandwich plate.

Golf Tournament Results

Prizes in the golf tournament, all of silver, were awarded to the following: Class A—best net (Challenge Cup) J. R. Whitney, of Whitney, Anderson, Springfield, Mass., 89-11-78; second net, F. H. Blackman, D. F. Munroe Company, 100-21-79; best gross, Roger Taft, Hammermill Paper Company, 88-9-79. Class B—Best net, K. H. Ways, Nashua River Paper Company, 103-30-73; second net, I. E. Maglathlin, Strathmore Paper Company, 103-26-77; best gross, A. P. Mitchell, Riegel Paper Corporation, 96-23-73. Guest prize, R. F. O'Neill, International Paper Company, 82-7-75. Kicker's handicap, Constant Southworth, Hampshire Paper Company, Inc. Best ball four-ball team, Roger Taft, Hamermill Paper Company, and E. L. Cummings, Storrs & Bement Company, Boston. Best selected nine—R. H. Campbell, Linton Bros., Fitchburg, Mass. Committees were as follows: Sports—Herbert C. Ham, chairman; W. J. McLellan, Nathan S. Clark, John H. Brewer, Willard H. Loud, R. F. Chapin, T. Charles Casey and F. W. Main. Golf—E. D. Bement, chairman; Norman Harrower, W. E. Porter, Jr., Nelson Freley, Wm. N. Stetson, Jr., and "Don" Smith. The officers of the association are: Albert R. Smith, president; Charles A. Esty, first vice president; Frank B. Cummings, second vice president; Thomas H. Carey, treasurer, and F. Bendel Tracy, secretary.

Those Who Attended

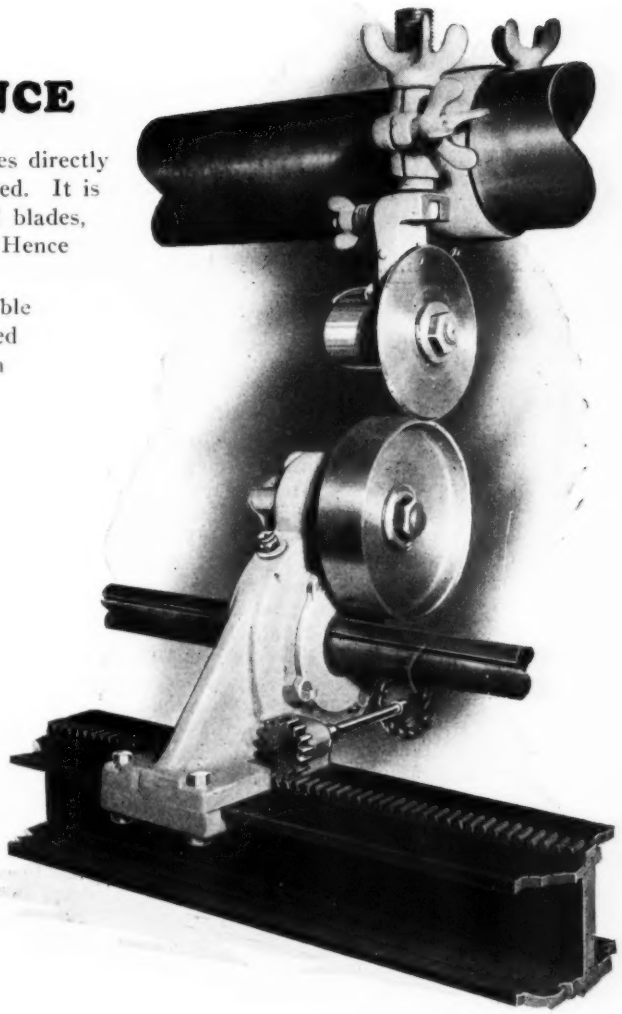
Those present included the following: Albert R. Smith, Frank B. Cummings, F. Bendel Tracy, H. E. Waite (A.C.H.), E. B. Dik, Arthur C. Hale, Leon M. Poore, John J. O'Brien, Herb Lindenberg, Herbert J. Casey, Lionel A. Walden, J. W. Vivian, C. A. Esty, W. R. Smith, A. G. O'Connell, Herbert W. Lockhart, E. T. Simpson, Joseph D. Snell, E. R. Lyman, C. Frederic Wellington, T. C. Greene, J. L. Munro, W. E. Burtt, P. F. Russ, H. R.

Note The Blade Mounting

—— IT'S DIFFERENT

accessible

FOR YOUR CONVENIENCE



Under the usual arrangement of mounting bottom blades directly on shaft, a dull blade is more easily observed than cured. It is necessary to dismount shaft, and possibly a couple of blades, to replace a dull or nicked blade midway of shaft. Hence the tendency to postpone regrinding bottom blades.

In "M & W" Ball Bearing Slitters, these causes of trouble are avoided. The bottom blades, instead of being mounted directly on shaft, are mounted above it and gear-driven at three times shaft speed. This permits using slow-running, vibrationless shaft. Both drive shaft (which is splined) and slitter spindles run in annular ball bearings.

This gives a true-running, almost frictionless and wearless condition with minimum need for lubrication. Any bottom blade can be replaced in a moment or so, without disturbing shaft or any other blade, merely by undoing end nut holding it on its shaft.

To complete the improvement, top blades also run in ball bearings. Thus the chance of frictional drag, and of wabble due to worn bearings, is eliminated. Any top blade is replaced, like any bottom blade, by removing one nut.

- **SAVES CLAIMS FROM PRINTERS DUE TO DUST AND BAD EDGES**
- **PREVENTS BLADE WABBLE THUS ELIMINATING SLITTER CRACKS**

EASY BLADE REMOVAL

Off and On In A Jiffy — Just Undo the Nut

THE MOORE & WHITE COMPANY

Established 1885

PAPER MACHINE BUILDERS

15TH ST. & LEHIGH AVE. PHILADELPHIA, PA.

Woodward, Walter P. Simonds, W. L. Carter, K. H. Ways, W. J. Evans, F. H. Merrill, W. H. Anders, T. K. Davis, Aaron P. Mitchell, Herbert C. Fowler, Carl E. Lincoln, W. E. Penny, Arthur M. Burr, Charles H. Wood, Chas. H. Wilkinson, Ralph L. Day, S. L. Willson, R. B. McDougall, E. G. Sussenguth, F. H. Blackman, John H. Brewer, Jamie W. Stepp, Constant Southworth, Fred B. Korbel, W. N. Stetson, Jr., E. Lindsay Cummings, George L. Webb, John Kelley, John Roach, W. J. Millane, R. B. Taft, Walter E. Perry, E. D. Bement, Nelson Feeley, W. E. Porter, Jr., R. B. Rising, Don Smith (Keith Paper Co), Graham Blandy 2nd, L. E. Maglathlin, Fred Burkhardt, Charles R. Bell, J. F. Blackman, R. A. Wight, A. L. Hobson, John E. A. Hussey, Charles S. Proctor, W. W. Langtry, R. F. Chapin, M. A. Park, J. A. Moses, Edmund G. Sullivan, Wh. W. Jenks Willard H Loud, H. C. Thayer, H. C. Upham, W. G. Very, H. E. Chase, Edgar P. Hall, R. H. Campbell, Jr., H. F. Bigelow, Everett F. Howarth, W. J. McLellan, W. W. Binford, C. A. Shaw, Hartley A. Hurlbert, Allen Hatfield, William H. Hilton, James Thompson, D. K. Brown, J. H. Smart, T. Chas. Casey, A. L. Ham, A. E. Ham, J. L. Ham, John A. Andrew, Geo. W. Wise, Jr., E. A. Sitzer, John Andrew, Richard Anderson, John Whitney, E. D. Pope, E. E. Pope, R. O'Neil, Mr. Graves, Nathan Clark, T. H. Casey, H. C. Ham and M. E. Hewitt.

New Tissue Specialties Company Formed

Formation of a new company for the manufacture of paper towels, napkins, cleansing tissue, and other tissue specialties, with main office and factory at Lititz, Pa., has been announced. The new company, known as the Walton Corporation, has been formed by D. S. Walton & Co., who have been operating plants at Lititz and at Little Falls, N. Y., for some time. The new company will continue to operate the Lititz and Little Falls plants with a general sales office at 132 Franklin street, New York.

H. J. Pierson and Albert C. Pierson, both of Lititz, who have been affiliated with the tissue paper industry for a number of years, have acquired a substantial interest in the new corporation and will devote their entire efforts to the business. H. L. Walton and R. L. Walton retain an interest in the new corporation.

The general sales office in New York will maintain a warehouse to facilitate prompt service to their large metropolitan area business. The general management of the company will remain under A. R. Edsall, of New York. The new company has been incorporated under the laws of Pennsylvania.

Joseph A. Bicking Dead

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 16, 1931—The Philadelphia paper trade has been informed of the sudden death from heart failure, of Joseph A. Bicking, who passed away in his 64th year at his home in Whitford, Pa., on June 4. He was the third son of S. Austin Bicking, of the S. Austin Bicking Paper Manufacturing Company, of Downingtown, Pa., and was at the time of his death president and general manager of that company, an office he held from the date of incorporation of that concern in 1916. Previously he had been employed by his father, S. Austin Bicking as manager. He was also associated with the S. Austin Bicking Paper Company, distributors, in this city until the acquisition of that company by the Penn Paper and Stock Company. He came of a prominent Chester County family. He was a director of the Downingtown National Bank. Surviving are two daughters, two sisters, and three brothers, Edwin, D. Parke, and Frank Bicking.

Pulp Terminal May Not Resume

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., June 15, 1931.—Rumors that the Ogdensburg Pulp Terminal was to resume operations were set aside this week when it was announced that all power lines furnishing electrical energy had been discontinued. The terminal has not been in use for the past two years and was abandoned previous to the termination of activities in the paper mill at Pyrites owned by the International Paper Company. Official notice has been received to dismantle all the electric motors used at the terminal which is also the property of the paper company. The pulpwood which remained following the suspension of operations at the Pyrites plant is being sent to the Algonquin Paper Company under a contract made with the International Paper Company.

It is claimed that the International Paper Company is expending about $250,000 yearly in maintaining the pulp terminal and the De Grasse Paper Mill in Pyrites with a few workers. At this time it is said that about fifteen hands ars being employed at the mill and very little work is being done. Paper stocks on hand are being shipped and most of the work being done is in order to keep the mill in first-class condition. The termination of the power lines at the pulp terminal is seen as an indication that activities will not be resumed. For many years it was among the principal industries here and employed more than 200 hands but the tariff barrier and unsettled conditions gradually resulted in a dwindling of operations and eventually the entire closing. The pulp terminal is one of the largest in Northern New York and was constructed with a view to affording excellent shipping facilities on the St. Lawrence River. The International Paper Company is now understood to be desirous of disposing of the property.

Boston Paper Market Fairly Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 15, 1931—Demand for paper in Boston and New England has been generally sustained, fully as much as for the last previous weeks. Many dealers report a fair business, and some not so good as fair, while others find an improvement. In some quarters there has been more activity in fine writing paper. Orders have been small, but more numerous than for a considerable period, so that the volume has been larger. In wrapping paper an average amount has moved, but dealers are optimistic. Values are holding at the same levels.

Box board is moving in moderate quantities, although price changes in chip have had some retarding effect on the market. Quotations are unchanged. The market for paper stock continues extremely slack, with prices unchanged. A number of grades are regarded as altogether too low. Old rope for instance, at 2 cents per pound, f. o. b. Boston, particularly spoken of. Shirt cuttings are also at extremely low levels.

Crown Willamette Pays $1 on First Preferred

[FROM OUR REGULAR CORRESPONDENT]

Directors of the Crown Williamette Paper company, at a recent meeting declared a dividend of $1 per share on first preferred stock on account of the regular quarterly dividend of $1.75 per share. The dividend is payable July 1, 1931 to stockholders of record June 13.

This action automatically defers the dividend on Crown Willamette second preferred stock and is in accordance with the recommendation made by the Crown Willamette directorate at its meeting May 4, 1931.

IF IT'S BAKERMADE *Eventually* It Costs Less

BESIDES our complete line of BAKERMADE equipment, we are prepared to fill orders promptly for special castings, from design to finishing, and to repair, rebuild and supply replacement parts for all types of pulp and paper mill equipment

Write us about your problems

THE BAKER CORPORATION

SARATOGA SPRINGS, N. Y.

SOME BAKER PRODUCTS

- Baker Improved Kneader
- Baker Improved Worm Type Knotter
- Improved Monarch Diaphragm Screen—Flat or Inclined 'Runs like a Sewing Machine'
- Improved Feeney Button Roll Felt Conditioner
- Hydraulic Automatic Magazine Grinder
- Chippers—2, 3, or 4 Knife
- Patent Combined Chipper and Crusher
- C. Bache-Wiig Barking Drum for 4 foot Wood
- Baker Stainless Steel Valves and Digester Fittings
- Winder Shaft—Patent Split Type
- Pulp Refiner—Single or Twin Type
- Wet Machines and Deckers
- Vertical and Horizontal Baker Centrifugal Pulp Screens
- Horizontal Rotary Screens
- Centrifugal Pumps in Bronze, Iron and Hard Lead
- Bronze and Hard Lead Valves, Pipe and Fittings for Sulphite
- Steel and Semi-Steel Valves for Soda and Sulphite
- Winders, Reels, Fibre Crossers

New York Trade Jottings

William H. Holden, formerly manager of the fine paper division of George W. Miller & Co., Inc., has opened an office at 15 Park Row, New York, where he plans to handle all grades of paper and card board. The telephone number is Worth 2-5799.

* * *

The Atlantic Gummed Paper Corporation, of 35 York street, Brooklyn, N. Y., has been organized to manufacture all grades and widths of sealing tape and gummed material of all kinds. The officers are: Fred Stockers, president; Abe Warshaw, treasurer, and Nathan Warshaw, secretary.

* * *

Interest on bonds of paper companies will be paid in June to the amount of $2,644,750, according to the Standard Statistics Company, of New York. Total interest payments of $263,588,197 will be made to holders of domestic corporate bonds, United States governments, and foreign dollar bonds, in June.

* * *

An improved method of handling pulpwood has been devised by F. H. Weeks, president of the Week's Stevedoring Company of this city. It is for use when the wood is transferred from one carrier to another and was used on more than 100,000 cords of Russian pulpwood carried from New York to Albany last year by Williams Line lighters and transferred there to railroad cars. The method, which has been patented, consists of stowing the sticks in iron hoops about six feet in diameter holding about one cord of wood. The bundles are loose, which makes for better storage, as the bundles settle into place better than if they were tight. The hoops are filled in the ship hold and the bundles are lifted by crane and swung to the lighter or railroad car. By this means a considerable saving is said to be made in labor and speed in handling is greatly increased.

* * *

At a luncheon and meeting of the Waste Paper Institute, held at the Hotel Astor, New York, on Tuesday, June 9, a New York Chapter of the Institute was formed. The executive committee for the new chapter was elected, as follows: Chairman, A. Costarino, of the Hicks-Costarino Company, Inc., Brooklyn, N. Y.; Vice Chairman, Alex. Adelman, of I. Hershman & Co., Inc., New Haven, Conn.; Secretary-Treasurer, Charles M. Haskins; Paul White, of the Gatti Paper Stock Corporation; Joseph Benedetto, of D. Benedetto, Inc.; M. Kay, of the Wilson Paper Stock Co., Inc.; Sol Ash, of Sol Ash, Inc.; Walter H. Martens, of George W. Millar & Co. Inc., and Harris Goldman, of The Leshner Corporation. The New York Chapter of the Institute has 35 firm members including most of the leading waste paper concerns in the New York district, and constituting the largest number of firms ever before grouped in a waste paper trade association in New York.

Norwegian Pulp Exports Show Big Decrease

WASHINGTON, D. C., June 17, 1931.—Shipments of pulp and paper from Norway during April, except for ground wood, virtually ceased, according to information received here. Exports of mechanical pulp, according to official statistics amounted to 27,076 metric tons as against 55,135 tons in 1930. Shipments of chemical pulp, however, dropped from 21,590 tons to 380 tons, boards from 1,264 tons to 250 tons, wrapping papers from 6,588 tons to 984 tons, book and writing papers from 4,062 to 713 tons, and news print from 14,803 to one ton.

New Package for Evergreen Napkins

The Hoberg Paper and Fibre Company of Green Bay, Wis., has announced a new, smart package for its Evergreen embossed napkins. This box is distinctive in design and character and is in vogue with the present trend of modern styling and coloring of package merchandise.

To be amply sure that the box would be entirely different from any other napkin container on the market, much time, study and expense was entailed to be absolutely certain that the finished subject would be one of merit and distinction, as well as containing the greatest possible degree of display value and effectiveness. A new color scheme was selected, as well as a decidedly different style of Evergreen tree. These two principal factors in the box design were then shaped and fashioned around the trade name "Evergreen," which resulted in this newest Hoberg creation. The napkins are packed 40 to the individual resale box with 24 resale boxes making up the total for each shipping container.

One interesting fact about this napkin pack is that each case contains one box with a special display feature cover. This box can be used to good advantage in making attractive sales-increasing window, counter and shelf displays. This particularly designed box creates a unique showcard effect when the cover is folded back and allows the napkins to be displayed in full view of customers.

The napkins in this special display feature cover box are wrapped and sealed in a protecting cover of cellophane which keeps them from becoming soiled or shop worn. After this package has served its purpose as a display box and card, the cover can be closed, and the napkins sold. Actual samples of both style boxes of Evergreen embossed napkins are now ready to be sent to the trade. Full information regarding shipping conditions, prices, also how this new resale package may be merchandised to increase sales, turnover and profit, will also be supplied upon request.

Stanford Paper Co. in New Building

The Stanford Paper Company, Washington, D. C., moved into its handsome new building early in May.

The building, which is located at 25 Massachusetts Avenue, N. W., has an attractive exterior and is modern in every respect. The offices, equipped with new furniture, occupy the first and second floors in the front of the building. A large well lighted service room with cabinets for paper and printed samples has been provided for on the right hand side as one enters the building. On the left is the Sales Department with a stairway leading to the second floor where the Accounting Department and Mr. Stanford's private office are located.

Storage and warehouse space is provided for on the first and second floors in the rear of the offices. Here, too, new steel shelving provides an economical as well as a neat arrangement for storing stock. The basement which is on the street level in the rear also provides additional storage space for case papers together with shipping and receiving facilities. A three way alley in the rear provides easy access to an enclosed loading platform which can be utilized as a garage at night for the trucks.

Start New Unit at St. Helens

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., June 6, 1931.—Initial operation of the machinery in the new unit of the plant of the St. Helens Pulp and Paper company, St. Helens, Oregon, began late in May with a small crew to test machines. About 50 additional employees will be given work when the new unit reaches capacity operation.

Beater • *Hot Plate* • *Flat Screen*
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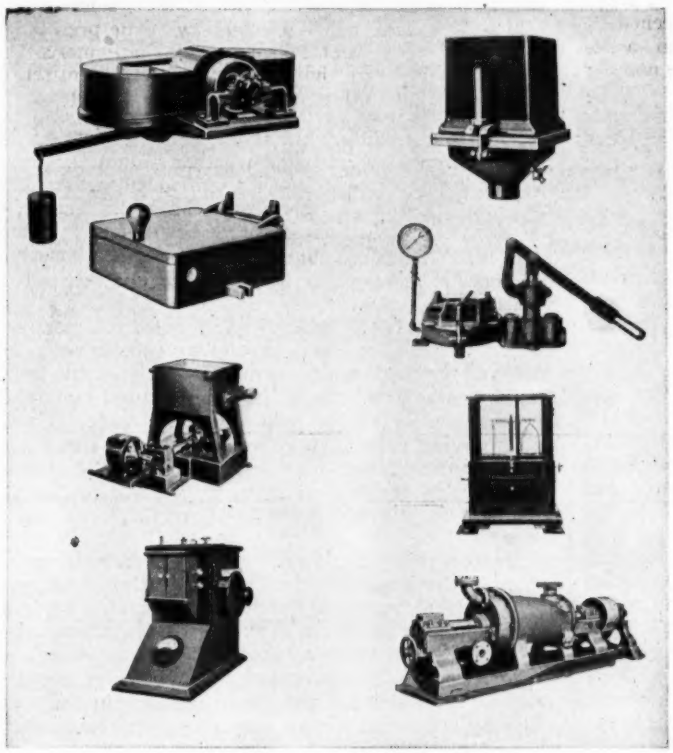

How To Develop NEW PRODUCTS

ANY mill which is not constantly developing new products and improving old products will, sooner or later, find that its progress is *backward*.

New products not only keep a manufacturer abreast of competition—but they pay the best profits. Improving old products provides a continued stimulus to sales and uncovers reductions in current manufacturing costs.

To carry on this vitally important work—a modern, fully equipped laboratory is necessary. It must be, in effect, a complete miniature mill so that tests comparable to actual mill runs can be made.

We have just issued a new, comprehensive Bulletin which contains a detailed discussion on the modern paper mill laboratory and also the various functions performed by Valley Laboratory Equipment. Write the Valley Iron Works Co., Appleton, Wisconsin for a copy of this Bulletin.

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TIMBER CONSERVATION BOARD HOLDS FIRST HEARING

(*Continued from Page 13*)

time the number of pages has fallen off slightly, and it may be that they will get back about to their previous size, he said. Magazines have not take up much of the slack, and the bulk of consumption of news print which was lost was in the smaller demand for it by Sunday papers, Mr. Kellogg said.

Industry Worried About Future Curve

The news print industry, the speaker declared, is worried about the future curve in per capita consumption of its product. There is a fear that it will level off at perhaps 55 or 60 pounds annually, compared with a peak of 62 pounds in 1929. In 1930 the rate was 58 pounds, and at the present indications are that it will be about 55 pounds in 1931, Mr. Kellogg said.

The only increase that can be looked for, in his opinion, is the normal increase brought on by the gain in population, for expanding exports is difficult. Mr. Kellogg explained that about 30 per cent of the capacity of the North Ameican news print business is in the United States, and that 80 per cent of its production is consumed in the United States.

The output of this country, he said, is now about what it was in 1912. Mr. Kellogg thinks domestic production is likely to remain at its present level, under prevailing prices and with the present raw material. He believes the United States could not make all its news print requirements at present prices.

Conditions of the pulp and paper industry in the Great Lakes States were outlined to the board by W. A. Munro. Mills in that area have curtailed their output an average of about 25 per cent, he said, and in some instances cuts have amounted to 50 per cent on some grades of products.

Advantages Held by Lakes States Mills

The Lakes States mills have advantages in near-by markets, because of good transportation, he said. Raw materials supplies are sufficient unless prices are lowered by the dumping of surplus products from other regions, he said.

There is a trend toward production of higher grade paper, Mr. Munro stated. Also he said the trend is toward discontinuing the connection of pulp mills and paper mills. There is more overproduction in plants making low-grade products that in those manufacturing high-grade goods, it was pointed out, but the marked overproduction in all lines, and curtailed schedules have been put in effect.

One drawback to reforestation projects seen by Mr. Munro for the Lakes States is the fear that science may find a wood substitute for use in making paper, or that it may create a substitute for paper itself.

Mr. Munro recommended that public timberland be held as a reserve, rather than in those manufacturing high-grade timber, he said, is a big factor in forest regions. Taxes in 10 years, in some instances, equal the stumpage value, and the urge to cut and liquidate has been especially strong in the last five years.

The greatest good the timber conservation board can do is to educate the public to the benefits of timber conservation, he declared. The public, he added, ought to be educated also to the policy of taxation on standing timber.

Discussing the world pulp situation, Mr. Anderson pointed out that although there was a decline in pulp price in 1930, the world supply and production was 20 per cent above the demand. United States market, he said, offered the quickest ready sale for excess foreign production, which was maintained in 1930, about as in previous years, while imports by this country were approximately as large as in the peak year of 1929.

"Domestic producers are at the mercy of foreign dumping which goes on unabated whether or not the products are produced in countries using wood cut under subsidy or by enforced labor," Mr. Anderson said. "This dumping curtails production in newly constructed American pulp mills, and stops expansion and further construction of domestic mills which would utilize our own adequate forests.

"With reasonable protection on pulp and news print, the western States could expand as rapidly as practical cost and gradual replacement of foreign-made tonnage would warrant, and always have an assured outlet in our own market for all the pulp and paper made. Prospects of a growing pulp industry are good, but its real growth and expansion hinge on securing a reasonable protection from foreign dumping in an equal measure to that found necessary for the protection and growth of the paper industry.

"Profits going to foreign producers help wrest from America the leadership in the news print industry, and today we find ourselves dependent on foreign made news print, all of which could be supplied from wastage in our own forests and manufactured by American labor.

"A policy of fair and reasonable protection would soon establish a large pulp and paper industry in the western United States and Alaska, capable of supplying the Nation's requirements with a twofold benefit of making us independent of foreign production and at the same time of helping us to develop a forest policy that would perpetuate our timber resources and make us more conscious of this, one of our greatest national assets.

"Reforestation and complete utilization of private, State and Federal timber will in a large measure take care of itself when we have adopted a reasonable program of protection the same as in foreign countries."

George Reid Dead

DENVER, Colo., June 12, 1931.—George Reid, who was treasurer of the Butler Paper Company, of Denver Colorado, since it started in 1923, died at his summer home in Bailey, Colorado, June 10, aged 57.

Before joining the Butler company he was treasurer of the Whitaker Paper Company and previous to that was treasurer of the Peters Paper Company.

Surviving him are his brothers Frederick H. Heid, president of the Mountain States Telephone and Telegraph Company; Roderick Reid, general manager of the same company; Donald Reid, vice president and treasurer of the Morey Mercantile Company, all of Denver, and two sisters.

Boston Paper Trade Happenings

BOSTON, Mass., June 15, 1931—Reduction of prices of several of the writing paper lines of the Hammermill Paper Company have been announced.

William N. Statson, Jr., president, and John H. Brewer, general manager, of Storrs & Bement Company, and John Wilson, advertising manager, of Carter, Rice & Co. Corp., are attending the Strathmore agents' meeting at Woronoco, Mass., this week.

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The papers which constitute this book appeared originally in the trade and technological journals as current reports of the progress of investigations under way at the United States Forest Products Laboratory for a period of about six years beginning with 1921. This information is the accumulation of years of experience. The method by which sulphite with the desired properties is to be made, the conditions under which it must be cooked, the strength of acid to be used, the equipment, operation and materials are all fully covered in this book. Included in this volume also is "Sulphite Pulp from Spruce" by Donald E. Cable.

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Method of procedure for adoption of official paper testing methods by the Technical Association of the Pulp and Paper Industry. The work on standardization of paper testing methods is divided as follows: Microscopic, Physical, Chemical, Optical Tests for Special Uses of Paper.

A number of new proposed methods and testing instruments are described, and much of the text has been rewritten wherever found necessary as a result of developments since the previous edition.

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FOREIGN PAPER TRADE

Exports of paper and paper products from the United States during April were valued at $2,044,606, representing a 2 per cent decrease as compared with the previous month and a 28 per cent decrease over the corresponding month last year, according to the Paper Division of the Department of Commerce. During the first four month period they were valued at $7,995,789, as against $11,481,524 during the same period last year, or a loss of approximately one-third.

Consignments of fiber insulating lath or board and writing paper were considerably larger than in the preceding month, those of the former amounting to $124,209, or a gain of 37 per cent, while those of the latter amounted to $153,744, or a gain of 27 per cent. Heavy losses occurred only in three instances, namely box board (paperboard and strawboard), which were 35 per cent lower than in May, paper bags, which decreased 32 per cent and paper hangings (wall paper) which were 23 per cent lower than in the preceding month.

Compared with the corresponding month last year, exports of paper and paper products were again, in most instances, considerably lower, the only exceptions being as follows: Greaseproof and waterproof papers, which were 40 per cent higher; bristols and bristol board, which gained 25 per cent; paper bags, with a 21 per cent increase and cash register and adding machine paper, the exports of which were 18 per cent higher than a year ago. The heaviest decreases occurred as follows: Surface coated papers, 66 per cent; book paper, not coated, 52 per cent; wrapping paper, 45 per cent; wall board of paper or pulp and boxes and cartons each approximately 42 per cent; overissue and old newspapers, tissue and crepe paper, fiber insulating lath or board, envelopes, papeteries (fancy writing paper) and sheathing and building paper which were from 30 to 35 per cent lower than a year ago.

During the first four month period, the following increases are noted over the same period last year: Greaseproof and waterproof papers, 58 per cent; cash register and adding machine paper, 30 per cent and paper bags, 11 per cent. The losses were many and heavy, including the following: Book paper, not coated, 56 per cent; wrapping paper, surface coated paper, tissue and crepe paper, and papeteries, each 45 per cent; wall board of paper or pulp, 42 per cent; fiber insulating lath or board, 40 per cent, while the following decreased from 30 to 35 per cent: Cover paper, other paper board, blotting paper, other writing paper, boxes and cartons, envelopes, vulcanized fiber sheets, strips and tubes and cash register and adding machine paper.

April exports of paper base stocks were valued at $470,059, being approximately double those of the preceding month, but representing a decrease of 41 per cent over a year ago, while the first four months' exports of this item were 44 per cent lower than last year.

Imports of paper base stocks into the United States during the first four month period were valued at $24,409,639, as against $39,219,222 during the corresponding period last year, the heaviest losses occurring in unbleached sulphite and sulphate wood pulp, peeled spruce and rags for paper stocks. Our imports of bleached sulphate wood pulp more than trebled during this period.

Total imports of paper and paper products during April were valued at $11,011,597, as against $10,732,305 in the preceding month, and $12,385,763, a year ago. During the first four month period they decreased 12 per cent over the same period last year. With the exception of cigarette paper, cigarette books and covers, the imports of which increased 45 per cent during this period, our imports of paper and paper products show a tendency toward rather heavy decreases in most instances, as is also the case with our exports of these items.

A CENTURY OF PROGRESS IN PAPER

Plans by which the paper industry may tell its story to the millions of visitors to A Century of Progress Exposition in Chicago in 1933, and dramatize the history of paper and its vital importance to modern civilization are being considered by a committee representing the pulp and paper industry.

The committee which is designated as the Pulp and Paper Sub-committee of the National Research Council Science Advisory Committee, is headed by Allen Abrams, of the Marathon Paper Mills Company, of Rothschild, Wis., has been in active operation for more than a year in developing plans for the paper industry's proposed participation in the 1933 World's Fair. A number of conferences have been held with officials of A Century of Progress.

Other members of the committee are: Kenneth D. King, of the E. I. Du Pont de Nemours Company, Chicago; W. G. MacNaughton, of the International Paper Company,

New York City; R. A. Hayward, of the Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich.; and Harold C. Ingraham, of the V. D. Simons Company, Chicago.

The 1933 Exposition, affords the paper industry an outstanding opportunity to present its message to the consuming public. Although paper is one of the most universally used commodities in the world today, it is taken largely for granted by its users. Everybody uses paper in some form every day, without giving it much particular thought. Yet without paper, the world as it is constituted today, would be a strange place.

The morning newspaper, the wrapper on the loaf of bread, the food carton, the butter container, the paper used in business and social correspondence—these and scores of others are handled every day, but the average person seldom stops to think of the various steps that are necessary in their manufacture.

The history of paper making, from the papyrus of ancient Egypt down to the highly perfected manufacturing methods of the twentieth century, it is suggested, could be portrayed in highly interesting exhibits. Modern developments in paper manufacture, most of which have occurred within the past hundred years could be illustrated, to show the improvements which have resulted from the application of scientific discoveries to industry.

A miniature paper factory showing the processes of manufacture from the raw material to the finished product has been one of the tentative suggestions for the exhibit. By such an exhibit, visitors to the World's Fair could actually see paper made. At one end of the exhibit might be trees and at the other end, the finished paper coming out of the machines. The various types of pulpwood, including balsam, firs and spruce from which news print paper is made, the barking and other methods of processing by which the tree is transformed into paper could be depicted.

The story of how rags are collected from all over the world for use in other types of paper making, how waste paper is utilized, and how flax, jute, cornstalks and other raw materials are made into paper could all be visualized.

Rushing Work on Weyerhaeuser Mill

LONGVIEW, Wash., June 13, 1931.—The five concrete buildings for the new pulp plant of the Weyerhaeuser Timber company, on the Columbia river, are almost completed, only the finishing work remaining to be done on details at this time, according to Chris Kupplers Sons, contractors.

A huge concrete water reservoir and filtering plant is under construction north of Coffin Rock adjoining the plant, where the vast quantities of water from the river will be treated. The Bingham Pump company of Portland is installing the pumping system which will be one of the largest on the coast. The two huge vacuum digesters were manufactured by the Williamette Iron & Steel company of Portland.

Installation of machinery will start soon with operation to get under way in the fall. The bleached sulphite pulp to be made at the plant will be shipped to the Atlantic coast to manufacturers of high grade paper.

Gottesman & Co., Inc. Prepare for Expansion

M. Gottesman & Co., Inc., Central National Bank Building, New York City, having reached the conclusion that business is on the eve of a period of expansion, the board of directors have formulated plans for changing the corporate structure to take advantage of anticipated favorable business developments.

The financial activities such as the sale of pulp and paper mill securities and such other financial operations as were formerly carried on by the company, have been transferred to the Allied National Corporation, a new company that has been organized for that purpose. Gottesman & Co., Inc., as the firm will hereafter be known, will concentrate its activities on commercial affairs and it will operate with a paid in capital and surplus of $1,200,000. There will be no change in the management or personnel which has functioned so successfully and has been in active charge of the company for more than twenty-five years.

Gottesman & Co., Inc., traces its foundation back to 1886, nearly half a century ago, and in that time has concentrated, as specialists, on the chemical and mechanical wood pulp and the chemical requirements of the paper and pulp industry. For the better accommodation of its extensive European connections, it maintains its own offices at Birger Jarlsgatan 10, Stockholm, Sweden, under the name of Gottesman & Co., A/B.

In commenting on present industrial conditions, Mr. D. Samuel Gottesman, president, stated, "Business is going through a difficult period at the moment, but industrial America is fundamentally sound, and we are rapidly approaching a point from which a fresh start will be made and an era of real prosperity will ensue. Firms operating on a sound basis need have no fear of the future. For my own firm, I believe we shall accomplish the most remarkable growth in our history, and with added facilities extend our endeavors to give continued service to the trades we deal with."

Goes With Eaton Paper Co.

Gordon Blanchard, sales manager of the Crocker-McElwain Company, has resigned his present position to become sales manager of the Eaton Paper Company of Adams. He will make his headquarters at 1 Park Avenue, New York, and in the fall he and his family will move to one of the suburbs close to New York.

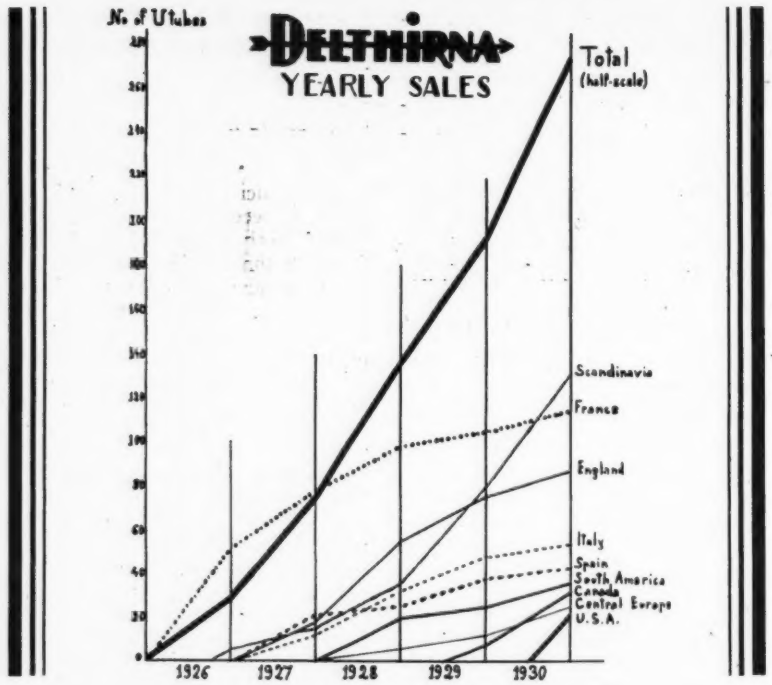
Mr. Blanchard is well-known in the American paper industry, and in his connection as Sales manager of the Crocker-McElwain Company has traveled extensively throughout the country.

He came to Holyoke in 1915 as assistant sales manager of the Chemical Paper Manufacturing Company. In 1923 he was promoted to sales manager of the Crocker-McElwain Company. Previous to his Holyoke connections he represented the Byron Weston Paper Company of Dalton in the West.

Mr. Blanchard was born in Brookline and graduated from Dartmouth College in 1908. He has been in the papermaking industry since leaving college, serving for three years as president of the Paper Makers Advertising Club, publishers of *Direct Advertising*.

Crown Willamette Gets Tax Refund

WASHINGTON, D. C., June 17, 1931.—The Crown Willamette Paper Company, San Francisco, Cal., has been awarded a tax refund by the Bureau of Internal Revenue amounting to $223,860.04 for over assessment of income tax of which the refund for 1924 was $65,089.58 and that for 1925 was $158,770.46.



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Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Current Papermaking Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

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Fillers

Fillers In Paper. H. Schilde. Papierfabr. 28, No. 25: 410-413: No. 26: 423-427: and No. 27: 439,444, June 29, (July 13, 1930).—Through the action of the wire and the suction box, the filler is not evenly divided throughout the thickness of the paper, and is always less at the screen side. The author gives an equation to show this difference in filler retention, viz. K (factor) = $\frac{\text{top side}}{\text{wire side}}$ of 74 different papers from various paper mills, there are only two which have more filler at the wire side, with the others the factor "K" ranges from 1.0 to 4.0. The factors influencing the value "K" are: (1) the kind of fiber, rag giving the greatest value and groundwood fibers the lowest, (2) the sizing has an effect, (3) the greater the quantity of filler, the higher the value for "K", the kind of filler also exerts an influence, (4) the basis weight, the value for "K" being the highest in the lightest papers, (5) the machine speed, a higher value for faster machines, also the kind of machine and its equipment. About one half of the filler is removed at the wire and returns to the beaters by means of pumps. The following conclusions were formed, (1) the fibers and particles of filler sinks through the sheet at different speeds because of their physical structure. (2) an enrichment of filler is possible on the top side as well as the wire side, largely through its own motion. (3) the various speeds of sinking of the paper components can be noticeable only at slow speeds. (4) the filler depositing, because of its own motion, is changed through forced motion by the natural or artificial dewatering. (5) in nearly all finished papers, the filler is so divided that the wire side contains less filler than the top side. The one-sidedness is lessened by raising the basis weight, and increasing the sizing and it increases with increase of groundwood content, filler content and speed of the machine. (7) in any layer the finished paper contained less filler than the wire side. (8) the filler loss at the table rolls increases with increase in speed of machine. (9) the action of the suction decreases the filler content on the top side as well as the wire side. —J.F.O.

The China Clay Industry: Its Development and Progress. Anon. Paper Maker and Brit. Paper Trade J. Annual No. 20A-25 (1930).—A brief outline of improved methods of production recently introduced in the Cornish mines.—A.P.-C.

Paper-Coating Process and Mechanism. Luther A. Parker assignor to the Champion Coated Paper Co. U. S. pat. 1,774,398, (Aug. 26, 1930).—The process consists in coating the sheet, placing it under relatively light tension, and "brushing" it with a number of highly polished smoothing rollers which are rotated rapidly in a direction contrary to the direction of travel of the sheet. If the sheet is coated on both sides, both sides of the sheet are "brushed" in this way, but the rolls on the two sides are staggered so as not to act as a press or calender. It is possible to apply either a heavy or a light coating, which may be for sizing, finish, gumming, etc.—A.P.-C.

Method of Coating Material. Earl C. Hall, assignor to Western Electric Co. U. S. pats. 1,764,624 and 1,764,625, (June 17, 1930.—No. 1,764,624—The invention is intended more particularly for waterproofing paper-covered electric wire. It consists in saturating the material with a liquid which is readily absorbed by the fibers (e.g., water), then subjecting the saturated material to a solution including a coating substance which is insoluble in the liquid used in the saturating process (e.g., cellulose acetate); due to the material being saturated with the liquid, the coating substance is prevented from penetrating into the fibers, thus causing a film of the coating substance to be formed upon the surface of the material. In another form of the invention, the material to be coated is not saturated preliminary to being subjected to the coating solution but is subjected in a partially or substantially dry state to a mixture of a coating substance and a liquid which is a non-solvent of the coating substance and which is readily absorbed by the fibers of the material to be coated. The excess liquid is then removed by drying. No. 1,764,625—The invention provides a machine for applying a coating of pulp to a metal wire, suitable as an electric conductor after which the wire coating is waterproofed as above. The wire is passed around a cylinder mold partially submerged in pulp, from which it emerges embedded in a ribbon of pulp; the ribbon is pressed and then wrapped around the wire core. After drying, the wire coating is waterproofed.—A.P.-C.

Method and Apparatus for Coating Paper with Paraffin. Van Hamm Wilshire assignor to the Specialty Paper Co. U. S.

pat. 1,759,600, (May 20, 1930).—After the paraffin coating has been cooled and set by passing the sheet through cold water, the waxed paper is dried by blotting up the globules of water adhering to the surface, a number of different forms of apparatus suitable for the purpose being described. The principle of the various forms consists in bringing the wet waxed paper in contact with an absorbent surface which is then dried by heating, or suction, or blowing air through it.—A.P.-C.

Drying

Heat Transfer Coefficient in the Drying of Sulphite Pulp. Erik. man. Pulp Paper Mag. Can. 30: 690,704-708; 719,732 (Dec. 18, 25, 1930); 31: 749,756,758 (Jan 1. 1931).—A mathematical discussion of the problem, describing a method for the determination of the coefficient of heat transfer on a pulp drying machine.—A.P.-C.

Possibility of Rebuilding Old Board Drying Apparatus for the Purpose of Increasing Production. Karl Rengew. Wochbl Papierfabr. 61, No. 27: 871-873 (July 5, 1930).—The efficiency and economical value of a board mill lies chiefly in its drying process. A description of the building and operation of a transverse board drying canal is given.—J.F.O.

Efficient Drying of Paper. E. W. G. Cooper. Paper Trade J. 92, No. 8, 110-112 (Feb. 19, 1931).—A practical discussion of the factors involved in paper drying, including notes on the selection of felts, press rolls and the use of pre-driers.—A.P.-C.

Some Ideas on the Drying of Paper. A. E. Montgomery. Paper Trade J. 92, No. 4, 47-49 (Jan. 22, 1931).—After a discussion of paper qualities which are influenced by drying and of the qualities desired in the drier, it is suggested that some of the desirable features of paper driers could be incorporated in a multi-stage driers based on the principle of the multiple-effect evaporator. The scheme that is put forward, with the idea of starting a train of thought ino a new channel, consists essentially in using in the wet-end driers steam generated by carrying out the remainder of the drying in an enclosed space.—A.P.-C.

Drier Felt for Paper Machines. E. Von Asten. Brit. pat. 335,376, (Sept. 30, 1929).—The ends of the felt are abutted together to form a continuous upper working surface and are joined by wire links which interlock around a wire and which are inserted in backings comprising folded strips of canvas, etc., secured to the felt by stitching, stapling, riveting, etc.—A.P.-C.

Steam Consumption in the Drying of Paper. Frederick W. Adams. Paper Trade J. 92, No. , 118-120 (Feb. 19, 1931).—From a discussion of the paper machine operating factors, the following formula is worked out:

$$\frac{(\text{Theoretical steam consumption})\quad \left(1+\frac{.4(\%\ \text{Time Down})}{100\%\ \text{Time Down}}\right)}{\left(1-\frac{\%\ \text{Broke}}{100}\right)\left(1.005-\frac{\%\ \text{Trim}}{100}\right)\left(1-\frac{\%\ \text{Steam Bypassed}}{100}\right)} = \left\{\begin{array}{l}\text{actual steam}\\ \text{consumption}\end{array}\right.$$

—A.P.-C.

Low Pressure Steam and Paper Machine Drying. Donald Ross-Ross. 122C. Paper Trade J. 92, No. 8, 106-109 (Feb. 19, 1931).—The superiority of the "blow-through" type of drainage system over that employing individual traps is explained and its advantages enumerated. A "blow-through" system of paper machine drainage, with temperature control, as installed on No. 1 machine at the Beauharnois Division of Howard Smith Paper Mills, is described in detail. An interesting feature in connection with his work is the use of a low-pressure header into which the variable-speed engines driving the paper machines exhaust at a common pressure, and from which the several drier sections receive steam at the same pressure. The common low-pressure header for all machines is claimed to have three advantages: steam saving, better speed regulation of the engines due to even back pressure, more effective temperature regulation on the driers due to even steam pressure. It is claimed that the drying system has reduced cockling troubles, maintained more satisfactory final moisture in the sheet, and substantially increased the drying capacity.—A.P.-C.

Device for Preventing Breaks from Extending Across the Full Width of the Sheet. N. A. Jacobsen. Brit. pat. 335,143, (Jan. 24, 1930).—When the sheet breaks at the wet part of it follows around the couch roll from which is is made to drop on to a hinged plate. The latter operates the valve of a water jet which longitudinally severs the sheet on the wire before the tear has extended completely across it. The jet is then moved towards the edge which has been torn and severs the torn portion from the main sheet. The jet may be arranged centrally or nearer the side which has the greater tendency to tear, or two or more jet may be employed and operated simultaneously or selectively. An electric or other relay may be employed to actuate the jet.—A.P.-C.

Method of Producing Thick Webs of Wood Pulp or Cellulose. Harold Jensen, U. S. pat. 1,756,754, April 29, 1930.—Two or more webs formed on the same or on different cylinder molds are subjected to a preparatory pressure after which they are combined in a common pressing device to form a thick web. By the preparatory pressing the separate webs obtain a suitable cohesive force and are rid of so much of their moisture that no substantial rolling-out takes place in the last pressing, but there still remains sufficient moisture that the webs adhere together without any auxiliary mediums.—A.P.-C.

Method and Apparatus for Drying Pulp. Richard D. Kehoe. U. S. pat. 1,770,409, July 15, 1930.—The method consists in delivering the liquid pulp to a centrifugal separator which removes a large proportion of the water, and from which the pulp is delivered, in separated, small, broken, rather fluffy and flocculent ball-like portions, with complete avoidance of any compact massed formation. The pulp is delivered on to an endless conveyor moving through a drier in which it is subjected to graded heat to remove the balance of the moisture without affecting the fibers.—A.P.-C.

Method and Apparatus for Shredding and Drying Pulp. Ossian Anderson assignor to Puget Sound Pulp and Timber Co. U. S. pat. 1,774,309, (Aug. 26, 1930).—This is an improvement on U. S. pat. 166,446, of May 1, 1928. The essential feature lies in the fact that the moist pulp web formed on the web machine is pressed relative lightly so that it still retains at least 60 per cent and preferably 65 per cent of moisture, after which it is shredded and dried as in the former patent. The higher moisture content is compensated by the fact that the pulp is less dense and compacted, so that drying is obtained as easily, and the dry pulp is in better physical condition.—A.P.-C.

Wet Machine or Pulp Drying Machine. E. F. Sundstrom and K. E. Steen. Brit. pat. 338,547.—The pulp is fed under pressure into a closed chamber, part of the bottom of which is formed by the surface of a perforated rotating drum. Compressed air or other gas may be introduced in the upper portion of the chamber to help dry the pulp on the drum above the liquid level. A further stage of drying may be carried out in a separate chamber having one or more rotary drums forming part of the base; the chamber may be divided into compartments by vertical partitions between the drums, gas at suitable temperature and pressure being introduced into each compartment separately. Suction chambers may be provided within the drums.—A.P.-C.

Latest in Calender Drives. P. Weiske and K. Rupprecht. Papierfabr. 28, No. 25 A; 132-138 (June, 1930).—A description of alternating current calender motors with auxiliary motor, especially describing the connecting device and the operation. For large calenders, a transformer arrangement, and a Leonard switch arrangement is recommended with a magnetic coupling. The motor and connections used in starting the heavy rolls of paper revolving and the motors for raising the rolls of paper are discussed.—J.F.O.

Concerning Asbestos Drying Felts. Erich Wagner, Hannover. Wochbl Papierfabr. 61, No. 29: 934-938: No. 30: 959-965 (July 19, 26, 1930).—After a short account of the evolution of asbestos drying felts numerous causes are given for the plugging up of

drying felts in general and then from observations and comparisons made with other felts, the advantages of the asbestos felt over the others is clearly brought out. The loss in weight, the loss in strength and stretch, as well as the change in porosity of the felt, which occurs in the use of felts; allows valuable conclusions to be drawn of the special properties and advantages of the asbestos felts. In conclusion, an exact comparison is made between two drying sections using asbestos drying felts and one using sail cloth and cotton felt. The asbestos drying felts lasted on an average three times as long as the ordinary felts. In one case, the cost per ton paper was 0.26 marks for the asbestos felt to 0.445 for the ordinary felt.—J.F.O.

Investigation Made on the Driers of a Paper Machine with Special Reference to the Consumption of Dry Steam With and Without the Use of the "Steam Circulation Process." Fr. Muller, Karl Lutz and Heinrich Sureth. Wochbl Papierfabr. 61 No. 48: 1534-1545 (Nov. 29, 1930).—The authors first describe fully the driers and the methods used in taking the data. Then the actual experiments are discussed and with numerous curves and tables the result shows that there is an increase in efficiency of .9 per cent with the use of the "steam circulation process" over the method without this process.—J.F.O.

Apparatus for the Determination of the Speed of Dewatering from Paper Stock Pulp and Groundwood. Report from the laboratory of Firma Louis Schopper. Papierfabr. 28, No. 38: 597-602. (Sept. 21, 1930).—The familiar Schopper-Riegler tester for the degree of beating is equipped with an additional device, namely, a conical valve, which was formerly raised by hand and in order to attain greater uniformity in experiments, it is provided with a mechanical lifting device. The apparatus and the procedure is described in detail as well as the experiments made to prove its accuracy. The apparatus gives dependable values for the properties of the stock going to the wire. It also shows how much loading material and how much dead beaten fibers or meal is contained in the stock. Because of its quick manipulation and its ease of operation, the beating action in the beaters and jordans can be controlled as well as the condition of the groundwood made in the wood grinders and hence the papermaker can be guided accordingly.—J.F.O.

Drying of Paper. Eduard von Asten. Wochbl Papierfabr. 61 No. 40: 1287-2189: No. 41: 1310-1313: No. 42: 1341-1342 (Oct. 4, 11, 18, 1930).—The author begins the article by describing the ways in which the water leaves the sheet, by gravity through the wire, by pressure and suction at the press rolls and suction boxes and finally by evaporating the boiling out at the driers. In the latter case, the partial pressure and the relative humidity is of great importance. The driers are elaborated upon by dividing them into such subjects as the heat put into the driers the amount of drying surface, the addition of unsaturated air to drive off the vapors. The various means of removing the vapors from between the driers are discussed, such as air jets, etc. For the first drier felt, a felt which holds the least water is the most suitable, hence a thin felt. The zone of evaporation follows and hence a felt which absorbs moisture is most desirable. The absorption of moisture in the drier felt depends on capillary action and is not identical with porosity in the broader sense. In the third zone there is an intensive heating and therefore a close woven felt, pressed tightly against the cylinder is the best. In conclusion, author describes the Minton vacuum drier, advantages, etc.—J.F.O.

Thermo Electric Measuring of Surface Temperatures in the Pulp and Paper Mills. Wochbl Papierfabr. 61, No. 42: 1343 (Oct. 18, 1930).—The thermo couple principle is used. The apparatus also possesses an automatic device for correcting the variation in room temperatures.—J.F.O.

Process for Dewatering Groundwood Pulp and Paper Stock. Sverre Diesen. Nor. pat. 48,243 (Apr. 18, 1929).—An endless felt is led around a perforated roll partially lying in a stock chest. A suction box is arranged around that part of the roll not covered by the felt and in this manner a perfect vacuum is maintained within the roll.—J.F.O.

Automatic Regulation of the Moisture Content for Paper Carton and Pulp Drier Regulator Patent "Dabeg." Wachbl Papier Fabr. 62, No. 3: 48-49 (Jan. 17, 1931). The drier regulator Dabeg automatically keeps the moisture content of the sheet uniform. The regulator is usually placed at the end of the driers and acts under the impulse of the change in tension of the sheet. This impulse is changed into hydraulic pressure for which oil or water is used, water is preferred since temperatures change the viscosity of the oil and thereby the regulation. The article further describes the regulator and the advantages in its use.—J.F.O.

Device for Dewatering Cotton Linters Pulp and Other Similar Substances. Bellmar Maschinenfabrik. Ger. pat. 496,059 (Jan. 26, 1929).—A revolving star shaped spray nozzle arranged in a housing, throws the separated stock against an endless screen wire. The arrangement is characterized in that, inside the housing are several endless screen or filter bands revolving over two rolls with bearings on the rotor. Between the rolls of each filter band, a catch basin is arranged with outlets whose open side lies against the inner part of the filter band.—J.T.O.

Suction and Press Roll for Dewatering a Sheet of Stock. Julius Stephansen. Ger. pat. 493,936 (Apr. 27, 1926).—The suction and press roll possess grooves on the periphery, which are connected with the suction space in the roll. The suction grooves are divided by axially running grooves. In that manner, the single grooves are connected by means of axial drilled holes and openings on the surface of the roll, with the suction space of the roll. In order to limit the suction action to the desired part of the roll circumference, the roll is provided with a locally placed cap capable of being regulated.—J.F.O.

Continuous Acting Wire Frame Drier for Board and Similar Substances. Otto Funke. Ger. pat. 497,769 (Aug. 24, 1926).—The wire frame driers connected to an endless chain and running on rollers are connected together by a link connection at the inner corners and held exactly parallel to each other by distance screws on both outer corners so that the board to be dried lies obliquely parallel to each other at determined distances and thus become exposed to a current of air on both sides.—J.F.O.

Device for the Drying of Board and Similar Flat Materials. Benno Schilde Maschinenbau A. G. Ger. pat. 498,250 (Apr. 4, 1927). The invention concerns itself with a device by which the material to be dried is led through a canal in a flat lying condition under continuous change of its drying position. It is characterised in that, the conveyor band forms points of support placed opposite to each other in the usual manner, which makes possible the action of a circuit motion taking place in a relatively short travel, simultaneously with the conveying of the material to be dried, which however stands in contact with the material only for a short while.—J.F.O.

Device for Assisting the Drying of Paper Board and Such Webs on the Paper Machine Consisting of Drying Cylinders. Frederik Grewin, Ger. pat. 498,092 (Nov. 3, 1926).—Air jets projecting into the space between the driers are used for blowing a thin and fast stream of air through this space and thus directly across the direction of the sheet. In order to guard against the edges of the web of paper, especially at that part of the driers lying near the wet end whose high moisture content makes the sheet still relatively sensitive, from being harmed, air jets are provided, formed of a pipe enclosed in the aforementioned pipe.—J.F.O.

Elastic Calender Roll Whose Covering is Composed only of Elastic Discs. Joh. Kleinewefers Sohne. Ger. pat. 498,397 (Feb. 7, 1929).—The roll composed only of elastic discs and two iron side discs, is so formed that during the pressing the covering has more pressure at the core than at the circumference. In order to attain this, the metallic side discs are provided with conical surfaces pointing toward the inside, or the covering is made up of a row of elastic disc inserts whose single discs increase pro-

gressively from the determined smallest diameter to the largest full roll diameter. Both these methods can be used together.—J.F.O.

Process and Arrangement for the Treatment of a Sheet of Paper with Colors or Chemicals. I. G. Farbenindustrie. A. G. Aust. pat. 116,886 (Nov. 15, 1929).—The sheet of paper is led over openings placed at desired positions, during the drying on the machine. The color is added before the sheet passes the openings to utilize the suction action at the openings.—J.F.O.

Process and Arrangement for Removing the Air from Suction Boxes of a Paper Machine. Max Wenzel. Aust. pat. 116,898 (Nov. 15, 1929).—Centrifugal blowers capable of being regulated are connected with the corresponding suction boxes or group of suction boxes. By changing the speed of rotation of the blower, a change in the produced suction is caused.—J.F.O.

Process for Removing the Water from Board by Pressing. Richard Kastner and Herbert Schmolka. Ger. pat. 509,455 (June 21, 1927). The water is removed by placing solid sheets of metal and a coarse wire mesh between the layers of board and the entire pile is pressed. According to claim number two an electric current is passed through the plates which develop enough heat to dry the board which has been pressed.—J.F.O.

Drying Device. Trygve Ferd Christiansen. Aust. pat. 119,059. (Mar. 15, 1930).—A drying device for material which comes in pieces for example, chipped wood, which is composed of a closed chamber whose walls bent inward and downward form a passage canal for the drying means. The walls of the shaft are displacable and if necessary they can be folded.—J.F.O.

Air and Residual Water in Steam Driers. Kruger. Papierfabr. 28, No. 46: 753-754 (Nov. 23, 1930).—Providing the drier with an air vent is insufficient and does not solve the problem of removing the air which reduces the efficiency of the steam and driers. The harmful effects of water and air are discussed.—J.F.O.

Devices for the Removal of Air and Water from Steam Driers. Papierfabr. 28, No. 47: 754-755 (Nov. 23, 1921).—Apparatus now in use are described as well as the importance for the removal of air and water.—J.F.O.

Process for the Removal of Water from Pulp and Similar Substances. John Stridlund. Nor. pat. 48,290 (Feb. 21, 1929).—The removal of the water is carried out in two or more stages. The separation of the fibers occurs in a separator before the last drying.—J.F.O.

Process in the Manufacturing of Paper on a Fourdrinier for Hastening the Dewatering of the Sheet which Describes a Curvalinear Motion During a Part of its Travel. Reinhold Wendel, Ger. pat. 501,257 (Oct. 16, 1927).—The fourdrinier wire is curved instead of the usual straight wire. In this manner the centrifugal force of the water particles greatly exceeds the force of gravity acting on the same particles of water. Suction boxes with curved tops are placed under the wire at convenient positions so as to hold the wire in the desired curve.—J.F.O.

Arrangement for Suction Cylinders for DeWatering Groundwood Pulp and Similar Materials. A. S. Myrens Verksted, Nor. pat. 47,836 (Dec. 13, 1927).—The cylinder possesses two or more inlets for the stock with dependent doctors for removing the web of stock formed at the circumference.—J.F.O.

Process for Dewatering of Paper and Pulp Webs and Similar Substances in the Wet Presses. Alois Danninger, Herbert Schmolka and Richard Kastner, Aust. pat. 118,876 (Apr. 15, 1930).—The wet paper or pulp web is heated at the wet press, that is before the last wet press, by means of a heat body with a very high degree of radiation, preferably by means of a heat lamp which reflects the heat without injury to the web of the paper or pulp, this to avoid the web from coming in direct contact with the source of heat. The heating is done in such a way that there is no appreciable evaporation of water although a sufficient temperature rise of the web is accomplished.—J.F.O.

Paper and Pulp Testing

Method for Determining the Degree of Purity of Cellulose Fibers. M. Freiberger, Z. v. Vass and L. Hönig. J. Soc. Dyers Colourists 46: 111-118 (1930).—The present methods of determining the degree of purity of cellulose fibers are discussed and two new quantitative methods given. In Method I the material is extracted with boiling caustic soda and this extract is oxidized with potassium ferricyanide and the excess of the latter back-titrate with thiosulphate. The potassium ferricyanide used is termed the ferricyanide number, and the equivalent is termed the oxygen number. For materials with lower ferricyanide numbers Method II is used. In it, the material is heated in an open test tube with caustic soda and potassium ferricyanide, and the excess of the latter is back titrated. It is assumed that oxidation in these methods is limited to the easily soluble reducing compounds present in the modified cellulose. Charts and tables of results and the effect of variations in the method on the results are included.—A.P.-C.

The Determination of the Viscosity of Cuprammonium Solutions of Cellulose. J. Tanard and J. Graham. J. Textile Inst. 21: 260T-266T (1930).—The general procedure of this proposed method is to determine the rate of fall of steel spheres 1-32 inch in diameter through the cuprammonium solution, the solution being prepared in the actual tube in which the measurement is made. The methods previously used for measuring the viscosity of solutions of cellulose in cuprammonium are discussed.—A.P.-C.

The Copper Number of Cellulose. A. J. Hall. A.M. Dyestuff Reporter 19: 355-358 (1930).—The different methods of determining the copper number of cellulose are given and discussed. The method of Hugglund is considered the most rapid and accurate.—A.P.C.

The Roe-Genberg Chlorination Number of Pulp. F. H. Yorston. Pulp Paper Mag. Can. 31: 98-99 (Jan. 22, 1931).—Failure to sweep all the air out of the pulp chamber when introducing chlorine, unavoidable irregularities in temperature control, variations in the solubility of chlorine in the water moistening the pulp due to changes in temperature and pressure and volume changes due to evaporation or condensation of water are factors which have less effect on the results than the distribution of the pulp inside the pulp chamber. This last factor determines the rate of solution of chlorine in the moisture present and hence the "blank," and seems to be the factor which limits the accuracy of the method; some definite technic for preparing the pulp samples should therefore be adopted and adhered to throughout any one investigation. Allowing for differences in the blank, the amount of chlorine absorbed by a pulp is independent of the partial pressure of the chlorine. The reliability of the method was checked by determining the chlorination numbers of mixtures of bleached and unbleached sulphite and bleached sulphite and groundwood; the relation between composition and chlorine number was linear, in agreemet with Genberg and Houghton (*Paper Trade J.* 88 No. 17: 71-78; No. 18: 53-59 (1929).—A.P.-C.

Copper Number of Cotton. Achille Cremonini. Ann. Chim. Applicata 20, 168-170 (1930).—The use of Fehling's, Soldaini's, Capezzuoli's and Braidy's solutions for the determination of the copper number of cotton was studied. A modification of Fehling's method is recommended. Two solutions are prepared: (1) 69.278 g. of copper sulphate per liter, (2) 346 g. of sodium potassium tartrate and 100 g. of caustic soda per liter. Place 15 cc. of each solution in a beaker, dilute to 90 cc. with boiling water, add 2.5 g. of finely divided cotton, immerse the beaker in a boiling water bath for 25 minutes, add 100 cc. of cold distilled water, filter through a Gooch crucible, wash with water and then with 2 per cent sodium carbonate solution, return the cotton and filter to the same beaker, add 50 to 60 cc. of a solution containing 90 g. of ferrous ammonium sulphate and 150 g. of sulphuric acid per liter, after 10 to 15 minutes filter the solution, wash the cotton with 50 to 60 cc. of twice normal sulphuric acid, and titrate with N/25 potassium permanganate solution, of which 1 cc. = 0.00254 g. of copper.—A.P.-C.

Waste Committee Annual Report*

Including Individual Reports of Sub-Committees

WHITE WATER UTILIZATION

C. M. Baker[1], Chairman

In the early development of the pulp and paper industry with an abundance of raw material at low cost, little or no consideration was given to paper-making materials lost through the mill sewers. With the increased scarcity and cost of raw materials, however, and the agitation regarding pollution of streams by mill wastes, the problem of recovery of these wastes has become an important one.

The 1926 Committee on Waste then estimated the average loss throughout the industry divided into grades to be approximately as follows: wrapping, 5 per cent; news, 7 per cent; tissue, 10 per cent; board, 10 per cent, and book, 15 per cent. A survey by the engineer of the American Paper & Pulp Association in 1927 indicated a total annual net loss to the industry of between $6,000,000 and $7,000,000 annually in fiber white water losses that should be recovered and utilized.

This year an effort has been made to develop definite conclusions regarding various methods of white water utilization that are in actual use in various classifications. The results are presented briefly and concisely by individual members to whom definite topics were assigned. Consideration has also been given to the effect of white water utilization upon sheet properties. Slime control, and de-inking wastes have likewise been considered. Analytical methods in white water utilization developed by the committee last year are included in this report and will be presented for consideration and adoption.

General Summary and Conclusions

General summary and conclusions are placed at the beginning of the report for easy reference. The individual reports following should be consulted for details and substantiating data.

1. There are five important items to consider in developing white water utilization in a mill as follows:

(a) A complete white water survey is first necessary to determine the existing losses and the extent to which expenditures for recovery are economically feasible. Analytical methods for conducting such a survey are discussed in this report. Reference is also made to a bulletin "White Water Surveys" published by the American Paper & Pulp Association.

(b) Reduction of fresh water to a minimum, irrespective of white water utilization, is essential both to economize water and simplify the use of white water.

(c) Recirculation and re-use of the white water without savealls is the next logical step. This further reduces the amount of fresh water required, recovers a certain amount of fiber, and reduces the expenditure necessary for savealls and other recovery equipment.

(d) Saveall equipment should be the last item of consideration with a view first, of recovering and utilizing fiber and paper-making material and returning the saveall effluent to the white water system, and second, of treating any residual white water which it may be necessary to waste.

(e) Application of any system requires careful study and development in any mill. Adjustments will have to be made in the manufacturing process to compensate for paper-making materials formerly wasted, but returned into the system with white water utilization. Personnel will have to be trained to successfully operate the system.

2. Methods presented include the collection and return of white water for dilution in the system and for shower water, both with, and without savealls. Where slush pulp from the pulp mill is used in the paper mill, the excess white water may be returned to the pulp mill. Savealls are necessary to remove stock from the white water ultimately discharged into the sewers from the pulp mill. Utilization in strawboard mills is closely related to treatment or disposal to reduce stream pollution.

3. Replies from 80 mills to questionnaires regarding slime control indicate chlorination as the most common and effective method to control biological slime, altho other chemicals are also used to some extent. Cleanliness in the mill is necessary to prevent accumulation of dirt in the white water.

4. White water may be utilized without deleteriously affecting quality, but adjustments will be necessary in the process to maintain standard sheet properties because of paper-making material returned into the system by the white water. This problem is being investigated by the United States Forest Products Laboratory, and a complete report will be published later upon their research.

5. Wastes from the de-inking of old papers may be recovered, but utilization of these wastes is difficult and confined to certain mills where local conditions and products are favorable. Further research is needed on this subject.

6. To encourage uniform analytical methods so that results in different mills may be comparable, a standard method of sampling and analyzing white water is presented for final adoption by the Association.

The reports of the individual members of the committee upon their assigned topics are given below. Although all mill operators and technical men may not agree that the methods suggested are the best or applicable to their particular mill problems, the data presented describe methods that are in actual operation in the industry.

There are two important steps in the development of white water utilization; first, the equipment, piping, tanks, savealls, etc. necessary for its recirculation and re-use; and second, its application in the mill. The first is relatively simple, but the second requires study and development. Installation of the equipment can not be completed one day and successfully placed in operation the next. Adjustments will have to be made in the process to compensate for paper-making materials formerly wasted but now returned into the system. Personnel must be trained in the operation of the new system. The final results, however, will more than repay for all efforts and money expended.

Methods for successful white water utilization are here presented. The extension of these methods to other mills, however, necessitates careful development and application in each individual mill.

PULP MILLS

By Russell T. Mann[2]

It is evident that any discussion of this subject is, of necessity, a general one. The conclusions drawn in this article are based upon current literature, improvements by the trade at large and the writer's own experience.

Method

There are three general methods of preparing white water for use in pulp mills:

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931.
Contribution of the Waste Committee.

[1] C. M. Baker, chairman, engineer, American Paper and Pulp Association.

[2] Chief chemist, Cherry River Paper Co., Richwood, W. Va.

1. White water tank with no auxiliary separation.
2. Use of some form of wire mesh for the separation of pulp fibers from white water.
3. Separation of white water and fibers by sedimentation.

In the first case the available white water is piped to some central tank from which it can be used where it may be considered necessary.

The second and third methods may be used separately or simultaneously for different parts of the pulp mill. In either case the recovered white water is piped to a central tank from which it may be used wherever needed.

Procedure

1. Collect all white water of low temperature in a central tank by any of the above methods.
2. Segregate sufficient white water of higher temperature for washing blow pits and use in other places where hot water may be needed. Pass this water through a heater of approved design before using. The remainder of this white water should go to the central white water tank.
3. Pass the drainage water from the blow pits over a red liquor saveall. The stock saved is returned to the pit and the red liquor joins that from the separator and passes over limestone to a settling basin of sufficient area to allow the solids to separate out before passing over an aeration dam where the red liquor is broken up into a spray by proper construction.
4. Water from the white water tank is pumped to the blow pits and used as auxiliary wash water and for hosing.
5. Water from the white water tank is pumped to the screens and used in all places except the showers.
6. Water from the white water tank may be used as make-up water for the unbleached wet machine vats.
7. All white water not used otherwise overflows from the white water tank to a saveall. The stock from this saveall should be re-screened and the water waste to the sewer.
8. Where slush stock is used from the pulp mill in the paper mill, the excess white water should be returned to the pulp mill white water tank.
9. In case the bleached stock is screened it would be of advantage to have a bleach white water tank and use the bleach wet machine white water as make-up on the screens. The better grade of bleach wash water could be used.
10. Chlorination or some other method of slime control would be of advantage.

Results

The total water used varies considerably. A fair amount may be set at 25,000 gallons per ton although this may be cut in direct proportion to the degree the system is closed and also depends on the grades manufactured. Stock losses should be kept down to one-half of one percent. The savings will depend on the grades manufactured and how completely the system is closed. There is a large field for economy in white water utilization.

Difficulties

Difficulties that may be encountered in the re-use of white water include slime, plugging shower pipes and the quality of the pulp. These can be remedied by the use of chlorination, avoidance of white water on showers except where large openings are used, and care in the correct application of the white water. A white water system needs considerable study and good judgment.

GROUND WOOD AND NEWS PRINT MILLS

By R. J. Schadt[a]

There was a time not so many years ago when a paper machine was built with an overflow under the wire for the purpose of disposing of excess water. The excess water containing valuable fibers was lost and the paper industry spoke of a 10 per cent loss as a loss that was standard practice. If the conversion loss was only 10 per cent, your mill was considered an efficient mill, at least as far as stock losses were concerned. Chances are, however, that this phase of paper-making was passed over lightly then.

Today, we speak of ½ per cent to 2 per cent stock losses in our newsprint mills. How has this been done? The methods of accomplishing these results are more or less standard practice today.

Method

1. Reducing fresh water usage to a minimum. It is evident that the smaller the quantity of fresh water that is used, naturally the smaller the quantity of white water that will have to be handled or utilized.
2. Re-use of the white water directly without filtering for thinning or in showers.

By the above method, it is possible to utilize a large percentage of the white water, if the excess machine white water is returned to the groundwood mill for use there instead of fresh water. Altho the thick white water from the machines is quite satisfactory for thinning purposes, it is usually a source of trouble if used for machine showers, due to the formation of lumps.

By carefully controlling all fresh water entering the system, it is possible to reduce the loss to a large extent. Even with the groundwood mill on all white water, there is usually an excess of machine white water that is allowed to run away. Since this water still contains a high percentage of useable fiber, this system is not wholly adequate, altho still used by some mills.

The general practice of utilization seems to be toward sedimentation or filtering first, and then re-use both in the groundwood mill for all purposes as well as on the paper machines for showers.

Since newsprint units are now so large, giving rise to large quantities of water, sedimentation has practically been displaced by the vacuum filter. The system employed is that of collecting the excess machine white water, filtering it, and then using the filtered water for all thinning and shower purposes. The excess white water in this case would have a low percentage of solids, usually .50—1.00 pound per 1,000 gallons, resulting in a low loss.

As the system becomes more nearly closed, the amount of slime penned in the system increases. This has been successfully combated by the use of chlorine.

Results

The results obtained by white water utilization are a more complete conversion of wood to paper, represented by a decrease in the fiber losses. At the same time, utilization has resulted in less pollution of river and stream.

Difficulties

Re-use of white water, altho the means for conservation of fiber, is not wholly without its own problems.

One of the most troublesome factors to be contended with in certain groundwood and newsprint mills is that due to re-use of white water, the acid constitutents in the wood are made more concentrated. These reach the point where they will attack the iron parts in the mill, and at the same time will darken the pulp considerably. Some of the recent installations are going to brass and bronze throughout in order to eliminate this corrosion.

The main difficulty in a sedimentation system, aside from the general corrosion problem of most re-use systems, is the large area required for application where there is a large quantity of water to be handled.

Even with vacuum filters there are certain problems which are more or less factors to be determined before installation and factors that are controllable to a large extent.

[a] Chief chemist Hawley Pulp and Paper Co., Oregon City, Ore.

(a) The vacuum filter should be correct type and have ample capacity.
(b) The correct kind and amount of sweetener must be used.
(c) Variations in furnish caused by use of vacuum filters.
(d) Variation in color caused by vacuum filters.

CONCLUSIONS:

1. Highly efficient vacuum filters using machine stock as sweetener with re-use of water and chlorination to prevent slime seems to be the standard method at present.

2. Re-use of white water not only on paper machines but also in groundwood mill.

3. The more closed the system, the greater the savings of soluble constituents as well as insoluble. The soluble materials would be precipitated in a closed system and finally become a part of the paper.

FUTURE STUDIES OR RESEARCH

1. Is slime primarily an algaeous fungus or bacteriological growth?

2. Function of chlorine—whether it attacks the slime forming elements in water or whether it attacks fungus growths in the wood.

3. Is a chlorine residual necessary in the white water or stock to insure eradication of slime-producing elements?

4. Re-use of white water on machine showers as a cause of lumps.

KRAFT MILLS

By D. M. Wadsworth[4]

Most Southern mills use basically the same methods in utilizing the white water incident to making kraft paper. The differences lie mainly in the extent to which this utilization is carried or in other words, the degree of approach to an entirely closed system. The methods described below are in actual use in several southern mills with more or less success.

METHOD

1. The white water from the machine is collected in a pit below the machine and from this pit is drawn what water is needed for beater make-up, broke beaters, if any, and for dilution.

2. Excess from (1) is pumped back to machine showers after being passed through saveall equipment.

3. Excess over (1) and (2) is sent back to pulp thickeners.

4. Effluent from (3) is used for dilution of stock going to the knotters or screens in the pulp mill screen room.

5. Effluent from screen room is passed over saveall equipment and used for various other purposes in pulp mill, e.g., (a) water to barometric condensers in evaporator room; (b) washing of the pulp in the diffusers, etc.

6. Mills furnishing only slush stock to the beaters can often use the pulp thickeners as save-alls.

7. Chlorination and other slime control methods will probably be very desirable.

RESULTS

By efficient white water utilization the water used per ton of product can be cut down to below 20,000 gallons for all operations in both pulp and paper mills. Fiber losses for both operations can be brought below one percent. Huge savings can be expected from efficient utilization of white water.

DIFFICULTIES

Some difficulties which will probably arise from closing the system up are slime, increased trouble from foam and increased dirt in the finished sheet. The slime trouble can be taken care of by chlorination, which may also help check foam trouble. The dirt in the white water can be kept down by keeping the pits and lines carrying it in good condition.

[4] Chief chemist, Bogalusa Paper Co., Bogalusa, La.

There may be some objections raised to using white water for washing diffusers, but some mills have found it practicable. The same thing can be said for using white water in barometric condensers.

FINE WRITING PAPER AND TISSUE MILLS

By C. M. Baker

The methods outlined below are in actual use in certain mills except to the extent of an absolutely closed system, the ultimate goal. The principles involved may be applied in whole or in part in any mill. The application, however, should be through gradual development in order that adjustments in the process and instruction of personnel may keep pace with the changed conditions resulting from utilization of the white water.

METHODS

1. Collect the more concentrated white water from the machine into a tank "A" of sufficient capacity to equalize the demand for beater make-up and dilution. Pump from the bottom of this tank for make-up in the beaters and dilution in the system.

2. Let the overflow from Tank "A," if any, discharge into a second smaller tank "B," which also receives the dilute white water as from the showers, and pump from this tank directly to all showers. If there is danger of fiber accumulating on the machine wire, a back shower near the breast roll may be of fresh water. The white water from this, however, should be collected independently and discharged directly to the sewer, since it will carry very little paper-making material.

3. Provide fresh water make-up through a float controlled fresh water inlet into tank "B," also a connection between "A" and "B" whereby white water may be drawn from "B" into "A" if necessary.

4. If it is found impossible to return the white water from tank "B" as suggested above, saveall equipment will be necessary to remove sufficient of the fiber or other materials to permit recirculation of the white water. If filter type savealls are used, tank "A" may be omitted and all concentrated white water conveyed directly to the savealls so as to build up a mat on their wires.

5. With cylinder machines, the overflow from the cylinder vat may be returned directly to the cylinder shower from the fan pump unless its capacity or head is inadequate, in which case independent pumping equipment will be required.

6. Felt shower water from cylinder machines and Yankee Fourdriniers may be collected separately and first, substituted for fresh water make-up in the general white water system, and second, returned to the felt showers, with such fresh water as may be necessary for make-up due to evaporation and other losses on the machine. If difficulties are encountered with the white water felt showers and two felt showers are in use, a white water shower can undoubtedly be retained on the face of the felt below the whipper, thus reducing the fresh water consumption to not more than one shower on each felt.

7. Where slush stock from the pulp mill is used on the machine, the excess white water may be returned to the pulp mill for showers and washing the pulp.

8. Absolute cleanliness is necessary for successful white water utilization. If white water is to be utilized from the machine pit, a curb must be provided at its very edge to prevent the washing of dirt from the machine bearings and floor into it. Employees must be prohibited from throwing foreign material into the pit. In some cases it is more practical to collect the white water without permitting it to enter the machine pit by the construction of trays under the wire showers, separate collection of the suction box white water, etc. The white water must be kept clean.

9. Chlorination or other method of biological slime control will probably be necessary.

Results

In complete white water utilization, the machine water consumption should be reduced to 1,000 or 2,000 gallons per ton of product. The total machine fiber losses may be reduced to less than one-half of one percent. Savings effected in various mills where white water utilization has been practiced amount to hundreds of thousands of dollars annually. One tissue mill alone reported a saving of $130,000 annually upon a $41,000 expenditure.

Difficulties

Difficulties that may be encountered in the re-use of white water includes slime, increased temperature and its possible effect upon sizing, and the composition or properties of the finished sheet. These can be overcome, however, by chlorination and cleanliness to control slime. modifications in the methods of sizing or point of its application, and adjustment of he formula for the sheet as the various chemicals, filler, etc., are returned with the white water. In fact, adjustments in the process are necessary for successful white water utilization. A closed system must be developed. It can not be just installed and placed in operation.

PAPER BOARD MILLS

By C. M. Baker

It is believed practical and economical to develop a closed white water system in nearly all if not all board mills. This can be accomplished without deleteriously affecting the quality of the product. In fact in many instances the quality will be improved since the retention of the more completely hydrolized cellulose will tend to cement the fibers together better and make a stronger board.

Methods

In all cases white water should be used for beater make-up and for dilution of the stock throughout the system. It is uneconomical to use fresh water for these purposes. There are three distinct methods of developing a closed white water system as follows:

Recirculation from fanpumps. Developments in certain mills have demonstrated that it is possible to return the water from the fan pumps directly onto the cylinder mould showers. In order to accomplish this it has been necessary to provide larger openings in the showers and direct the showers more tangentially to the surface of the screen, thus washing the accumulated stock off rather than through the screen. A slight change in piping is all that is necessary to accomplish this unless the capacity or head of the fan pumps is inadequate, in which case booster pumps may be required for the showers. Several adjustments of the showers may be necessary before a satisfactory combination is reached.

Difficulties may be encountered in some of the old types of vats, where the effluent is taken from a submerged outlet, due to foam within the cylinder. This can be overcome, however, by readjustment of the outlet so that the effluent is taken over a weir from the surface thus removing the foam.

Re-use of the white water in this manner is ideal, since each cylinder becomes a closed unit, and the white water of each is returned to its own vat. Thus if a special stock is used on the liner or backer it does not become contaminated with the stock from the filler moulds. If the capacity of the fan pump is inadequate booster pumps may be provided for the two end cylinders forming the liner and backer of the board, and the white water from the other cylinders collected into a common pit and returned to their showers. This simplifies the equipment necessary, yet keeps the white water from the liner and backer cylinders separate from that of the filler moulds.

While thorough cleaning of the felts is essential, some mills have found it feasible to operate with only one shower on each felt. In any event, if two showers are provided, the felt shower water may be collected separately and returned to one of the two showers on each felt. To accomplish this successfully the fresh water is placed above the whipper on the inside of the felt, and the white water shower on the face of the felt below the whipper. With this set-up, any accumulation of material which may adhere to the face of the felt will be removed by the whipper and freshwater shower above. An entirely closed system may be developed by providing a float controlled fresh water inlet into the felt white water tank, drawing from this tank instead of using fresh water for make-up to evaporation and machine losses, and using white water on all felt showers.

Collection and Recirculation. This method involves the collection of the white water from all of the cylinder moulds into a common sump and separate collection of the white water from the felt moulds in a similar manner. The white water from the cylinder moulds is returned directly to the cylinder showers and used for make-up in the beaters and for dilution. The felt shower water is returned as outlined in the preceding method and is also used as make-up. Sufficient storage must be available to provide for fluctuations in the flow.

The disadvantage of this method is that difficulties may be encountered in returning the white water to the liner and backer showers because of differences in the quality and color of the furnish. One mill experimenting along these lines, however, collected all of its white water of various colors from three or four machines into a common pit, and successfully returned it to all except the white liner showers.

An entirely closed system may be developed by handling the felt shower water in the same manner as in the preceding method except possibly in connection with certain liner showers.

Recirculation with Savealls. If it appears impossible, because of local conditions or the grade of board manufactured, to re-use the white water without savealls, next consideration should be given to this method. The white water must first be collected at a common point. It is then passed through a saveall and the recovered stock returned to the system. The effluent white water is returned to the showers. A closed system can undoubtedly be developed by this method.

There is some question, however, as to the type of saveall and degree of efficiency required. The ordinary screen saveall, such as the sidehill, seldom produces an efficiency over 40 per cent in fiber removal, but may sufficiently clarify the white water to permit its return and circulation. Greater efficiencies, however, may be obtained by the higher grade savealls which permit the accumulation of a filtering mat upon the screen.

Sedimentation savealls either with or without coagulation are effective, but are usually more expensive unless a high efficiency is necessary. Furthermore, they require the storage of a relatively large volume of stock which tends to increase slime troubles and cause greater loss in clean-ups. If the white water can be recirculated from the fan pump, however, savealls seem unnecessary in board mills.

Slime Control. Chlorination for slime control will probably be necessary with any of the above methods. Cleanliness to keep the stock and white water free from dirt is necessary.

Results

Savings consist not only of fiber recovered but also of reduction in heat or power necessary. One board mill investigating this problem estimated that by utilization of its white water $25 worth of fiber would be saved daily, and $75 in heat units. Reduction in water consumption is also an important factor. One mill purchasing its water from a municipality reduced its water bill $100 daily by white water utilization.

Assume application of the above principles to a six cylinder machine with two showers on both the upper and lower felts. This will make a total of 10 showers. With an average of 100 gallons per minute upon each shower the total water con-

sumption for the machine is 1,000 gallons. Recirculation of the white water from the fan pumps onto the cylinder moulds will eliminate the necessity of fresh water on six showers, thus reducing the consumption of fresh water from 1,000 to 400 gallons per minute. Recirculation of the white water from the felt showers onto the lower shower of each felt will further reduce the consumption to 200 gallons per minute for the machine. The overflow from the cylinder moulds will be used back into the beater and for dilution of stock. Due to evaporation, make-up water will be necessary but this may be taken from the overflow felt shower water, thus further reducing the consumption and volume of waste. In fact it is believed that with a proper hook-up the felt shower water may be collected and returned to both of the felt showers, providing the fresh water—the inlet of which may be controlled by a float valve—is all returned to the upper felt shower with only such white water as is necessary to make up the deficiency. In this manner a completely closed system will be developed.

In any event, this procedure will permit a reduction of the water consumption and the resultant mill effluent to less than 200 gallons per minute. Furthermore, the mill effluent will consist of only relatively clear and pure water from the felt showers.

Difficulties

The principal difficulties encountered in early attempts in white water utilization have been dirt and slime. Care must be exercised to prevent dirt from finding its way into the white water and stock. In general, equipment should be washed up at the end of the week and during changes of run. Biological slime will have to be controlled by chlorination. In fact it is probable that the control of biological slime has been one of the outstanding developments permitting complete white water utilization.

STRAW BOARD MILLS

By W. W. Galloway[5]

During the past year your representative has been observing all activities with reference to this industry and is pleased to advise that we are continuing to do so. Some indications of eventual solution to the straw paper waste water problem have been observed and their further development will be reported upon when they occur.

The Hagar Straw Board & Paper Company at Cedarville, Ohio, is continuing its work of reducing the amount of wash water from the beaters and is gradually evolving an approximately closed system. The waste water is now averaging about 11,000 gallons per ton of finished product.

At the plant of the Midwest Box Company at Circleville, Ohio, which is owned and operated by the Container Corporation of America, some experimental work was done in October by a private corporation primarily interested in handling domestic sewage for the town of Circleville. The waste water from the mill was conducted to this experimental plant for several hours in succession and treated with a combination of chemicals controlled by patents of the Company doing the work. A very fine clear effluent was produced that was rich enough in oxygen to be beneficial to a stream and with the appearance of spring water. The precipitated material was deposited continuously in proportion to the input and experimentally was de-watered, mixed with a pre-determined amount of peat and sacked and shipped as commercial fertilizer. The Company conducting the experiments expects to have an installation completed at a straw paper mill during the first half of 1931 that will be handling the mill waste on a commercial basis. Figures will be produced showing the cost of installation and the cost per thousand gallons of waste, an analysis of the clarified effluent and of the precipitated sludge showing its value as fertilizer. There will also be obtainable the cost of the preparation of the same for commercial purposes.

It appears quite likely that the above process will make good the claims of its originators. It will mean stream pollution can be ended because the effluent will be harmless or because the clear effluent can be returned to the mill and used over and over again. It is likely that the by-products will more than pay for the cost of the installation and its maintenance. Further developments will be awaited eagerly by all straw board manufacturers and will be reported upon promptly.

One of the makers of continuous filters is conducting experiments in a straw paper mill on washing of straw pulp between the rotaries and the beaters. Indications are that the shrinkage between the raw material and the finished products will be successfully reduced. This is accounted for by the fact that the soluble material and colloidal matter only are washed out at this stage of the process and that fiber loss is prevented and eliminated. The experimental work has not reached a completed stage and will be reported upon in due time. The effect on waste water conditions and amounts will be ascertained by us and included in our report.

Reports have been received that work is being done on the development of the practice of washing cooked straw before being dumped from the rotaries. This will be followed up under more favorable manufacturing conditions than have obtained in the past year and will be incorporated in our next report if definite information is secured.

Experiments altering manufacturing processes are being reported from several straw paper mills. Some will no doubt in the future become common practice and may affect favorably the solution of waste water problems in this industry. Practically all the manufacturers agree in the statements the solution to the problem will be welcomed and this industry will cooperate fully as soon as it is convinced a successful solution is available.

[5] General manager, Hagar Straw Board and Paper Co., Cedarville, Ohio.

CHLORINE AND OTHER METHODS OF SLIME CONTROL

By L. M. Booth[6]

In response to a questionnaire for information pertaining to methods of slime elimination which are employed in paper mills, the Waste Committee has received eighty replies as of December 1, 1930 which show the use of one or more of the following means:

	Mills
Chlorine	72
Bleach liquor	4
Slime remover	3
Soda ash	2
Copper sulphate	5

The products made by these mills include the following:

Bag	Insulating
Blotting	Leather fiber
Board	News
Book	Specialties
Bristols	Straw
Building felts	Tissue
Chestnut	Wrapping
Coated blanks	Writing
Glassine	Pulp mills—Sulphite and Ground Wood

Of the mills using chlorine, the experiences reported cover periods varying from two months to six years. One mill does not use chlorine in winter and two use it only at week-end clean-ups in the winter. Forty mills use chlorine only in the fresh water, twelve in the white water and seven use it in both fresh and white water. One mill reports using it in the stock only.

Amount of Chlorine

The amounts of chlorine used are reported as follows:

	Pounds per ton of product
Fresh water	0.11 to 6.0
White water	0.33 to 5.0
Stock	3.0 to 10.0

[6] President, Booth Chemical Co., Elizabeth, N. J.

From a study of the data from mills which chlorinate either the fresh wataer, the white water, or both, we find that ten report treatment of water from underground sources. Of those treating water from surface sources, twenty-one mills use filters. Experience shows that surface supplies contaminated with sewage and other organic matter require the greater amounts of chlorine. The replies show that the average amount of chlorine is 1.03 lbs. per ton for mills which treat a well water supply, while the average amount is 1.73 lbs. per ton for mills which treat a polluted surface supply.

Results

From a study of the replies to the questionnaire it is clearly brought out that there has been a decrease in slime accumulation due to the use of chlorine. The piping is cleaner and in nine instances the average interval between cleanings has been increased threefold. In forty-four mills slime growths in head boxes, troughs, etc. have been materially lessened, or eliminated entirely. From the fact that three mills report no change, the inference may be drawn that in their cases the full value of the chlorine has not been obtained. The dosage in each of the latter instances was considerably less than the average. With respect to cleaning of screens, nineteen mills report that there is no data available or no change in the interval between cleanings. Of eleven mills, each reports that the time interval has been increased by 100 per cent. Indications are that probably in the nineteen mills slime at the screens was not a source of trouble as may have been the case in the latter instances.

There were twenty-eight replies in regard to loss of time on the machine due to slime breaks. Thirteen mills report that they have no available data. Of the remaining mills all state that the loss of time from slime breaks is less since chlorine was put into use. One mill only, reports a definite figure, namely 2.5 per cent loss of time before the use of chlorine for slime control, and 1.2 per cent after its use. If half of the mills show a decrease in loss of machine time, no doubt the remaining mills, from which no data is available, have also gained an appreciable advantage.

With respect to felt and wire life, most mills reporting indicate no data on the subject, or that there has been no change. Seven report favorable influence on felt life specifying increases of from 20 per cent to 50 per cent of felt life. Figures in regard to the increase of felt or wire life are necessarily difficult to obtain because there are so many variables which enter into the question. Three mills have reported that the use of chlorine injured felts but the evidence indicates that in each instance an excessive amount of chlorine was used. However, from the data at hand, no decrease in felt or wire life is shown when chlorine is used with understanding.

There seems to be but little testimony with respect to the reduction of the fresh water required since chlorine was adopted, even when the chlorine is used in the white water. The average amounts of fresh water reported are as follows:

	Gallons per ton of product
Board	14,095
Book	21,000
Bristol board	52,300
Glassine	82,000
Kraft	17,200
Leather board	25,000
News	33,200
Rope	137,000
Specialties	42,000
Tissue	29,450
Writing	36,300
Sulphite pulp	50,000

From the above it would seem that important savings are still to be effected in many mills by reducing the amount of fresh water used. There is a direct relation between this amount and the volume of mill effluent.

There were forty-four replies to the question in regard to white water recirculation. Eleven mills report no white water recirculated, while thirteen report that they have not recirculated white water to any increased extent since using chlorine. Of the remaining mills the greatest use of white water is in beaters and for machine showers. Two mills report that they use white water for felt washing. Since about half of the mills successfully re-use white water, progress along the same line can be made by the remaining mills if they so desire.

Difficulties

In a few of the mills now using chlorine certain difficulties were experienced. If the residual chlorine is too high (one mill states "less than 1.0 ppm. residual") corrosion of brass and iron parts takes place, as well as destruction of some colors. Routine control tests for residual chlorine serve as a guide in keeping the treatment properly adjusted so that unfavorable results do not ensue. Seven mills report that there has been no commensurate benefit due to the use of chlorine for slime elimination. Since fifty-seven mills find it to their advantage to use chlorine, perhaps in the other instances the method of application has been faulty. One respondent observes that some mill men are looking for immediately favorable effects and unless the slime disappears almost overnight the result is considered as negative.

There were replies from thirteen mills which had discarded chlorine after using it for a limited time. Several of them mention the same faults which mills now successfully using chlorine have encountered and subsequently overcome. In three mills which have discarded chlorine the amount of chlorine used per ton of product was far in excess of the average quantity used elsewhere successfully. Five mills report that they may return to the use of chlorine.

The mills which report as contemplating changes in chlorination procedure intend to chlorinate and recirculate more white water. The present use of chlorine has been of such benefit that they expect to increase the amount used to their further advantage.

The figures at hand show that a majority of mills which replied to the questionnaire are using chlorine to overcome slime. There were fourteen replies from mills which were using another chemical for this purpose, either alone, or in connection with chlorine.

Other Chemicals

Three mills report the use of bleach liquor in the fresh water and one mill reports the use of it in the white water. Results were obtained which were similar to those noted by the users of liquid chlorine. In no instance have they indicated any different benefit arising from the use of bleach liquor.

Three mills report the use of a slime remover used at times of weekly wash-ups. They report a decided decrease in the amount of slime present in the piping, screens, and headboxes. One mill reports that this use has eliminated some of the time formerly lost due to slime breaks on the machine. In no instance do these mills report any attempt at fresh water reduction or white water recirculation.

Two mills report soda ash as being used as the weekly clean-ups. One of these two mills uses chlorine continuously and states that this combined treatment produces favorable results. The other mill flushes out pipes weekly and vats semi-weekly and states that there has been an appreciable increase in felt life and much less lost time due to this procedure.

The fact that each of the five mills using a chemical at week-end clean-ups report favorable results indicates that further attention should be given to this method.

Five mills report the use of copper sulphate. Three of these use chlorine continuously, with the addition of copper sulphate during the summer. The copper sulphate is added as an algaecide to the fresh water. One ground wood mill reports the addition of it to the stock at the rate of 0.1 lb per ton. This use has been satisfactory and enables the mill to reduce the amount of fresh water required and to increase the amount of white water reused. The other mill reports the use of copper sulphate for

twelve years, added to the fresh water and white water at the rate of ¾ lb. per ton of paper, but no detailed information is given. From the above data it is to be noted that experience with copper sulphate is limited, but in the instances reported it is effective.

CONCLUSIONS:

1. Chlorine is the most widely used chemical which is applied for slime elimination in paper mills at the present time.
2. Regardless of whether the chlorine is added to fresh water, white water, or both, favorable results are obtained. Local conditions influence the point of application.
3. The use of chlorine lessens, and in some cases eliminates entirely, the trouble arising from slime accumulations in pipes, head boxes, screens, etc.
4. The use of chlorine influences the amount of white water which is recirculated.
5. Corrosion of metal parts due to the excessive use of chlorine should be guarded against by limiting the amount of residual chlorine prevailing.
6. Although a few mills complain of the cost of chlorination, the majority are satisfied that the benefit derived is well worth the cost.
7. The trend in mill practice at this time seems to be toward the increased use of recirculated white water.
8. The use of chemicals other than chlorine has shown favorable results in the limited number of cases reported.
9. In view of the experiences reported the use of other chemicals in connection with chlorine warrants further study.

EFFECT ON SHEET PROPERTIES

By E. R. Schafer[1]

NOTE: Some mills have reported increased strength and a better sheet with white water utilization; others a poorer sheet. In order to secure more definite data on this subject the Forest Products Laboratory initiated certain research in its laboratory at Madison. The present status of the work is indicated in the following communication from Mr. Schafer. (The Chairman).

Reference is made to your request for a report on my work on the Waste Committee for the past year. Since it is impossible to prepare a formal report ready for publication by the time you have designated, and further, since the work is as yet incomplete, I trust a summary of the progress to date will be sufficient for your purpose.

As you are aware, it was necessary in studying the problem assigned to call upon the facilities of the Forest Products Laboratory and in this connection I wish to mention the helpful assistance of Mr. P. K. Baird, Senior Chemist, who designed the white water system employed in the experiments and supervised the paper-making operations; also of Mr. F. A. Simmonds, Assistant Chemist, who supervised the stuff preparation and of others of the Pulp and Paper Section who assisted in testing and machine operations. I also take this opportunity to express appreciation of the courtesy of the Kimberly-Clark Company and the Marathon Paper Mills Company in supplying the pulp for the experiments, and of your own helpful advice on the problem.

The subject as originally assigned was, "The Effect of White Water on Paper Quality." This subject, however, involved a number of considerations and was too broad to be answered by the limited amount of experimental work possible in this investigation. For example, the term "quality" has no meaning apart from the requirements of use. The extent to which white water can be used depends on the ability to so adjust other operating conditions as to maintain a desired standard quality. It is this factor which has undoubtedly been at least partly responsible for the varying opinions as to the advantages of white water utilization.

[1] Forest Products Laboratory, Madison, Wis.

With the above points in mind it has appeared desirable to limit the scope of any work done. Our investigation has, therefore, been restricted to a study of the effect of white water on measurable sheet properties. The following summarizes the work finished thus far. It is expected a more formal and comprehensive report will be made when the work is completed.

The experimental work consisted essentially in the making of paper containing varying amounts of fiber and filler introduced from the white water. The Forest Products Laboratory paper machine was used with the piping so arranged that the white water in any desired proportion could be returned either to the stuff line or to a storage tank for use in beater make-up and for diluting the stuff in the machine chest.

The procedure followed was to return all white water to the stuff line (at a point between the jordan and the screen) until the clay retention had reached a maximum. Part of the white water was then diverted to the storage tank and an equivalent volume of fresh water introduced and mixed with the white water going to the stuff line. At intervals, thereafter, more white water was diverted to the tank and correspondingly more fresh water introduced into the stuff line. Finally all of the white water going to the stuff line was replaced with fresh water. The samples of paper obtained under these various conditions were tested by the usual methods for determining the strength of paper. They were also tested for color, opacity, gloss, cleanliness, printers ink absorption, and clay content.

BOOK AND NEWS

Two grades of paper were made: one, a standard soda-sulphite book paper with a 30 per cent clay furnish, the other, a standard newsprint with a 5 percent clay furnish. The addition of clay to the newsprint was intended principally as an indicator to the retention of white water "solids" and not, as actually occurred, to produce a slightly higher grade of paper than standard news.

The results obtained on the book paper are sufficient only to show the trends but indicate a decreasing retention of clay with increasing proportion of fresh water. This decrease in retention was, of course, not wholly unexpected and ranged from about 66 per cent for the "all white water" sample to about 40 per cent for the "all fresh water" sample. There was also a decrease in the density, the gloss, and the opacity, in amounts varying from 10 to 30 percent between these two samples. On the other hand there was an increase of from 30 to 50 percent in the bursting, tearing, tensile, and folding strengths. The printers' ink absorption and the color was practically unchanged.

In regard to the newsprint paper the trends were not so pronounced. The clay retention remained practically constant regardless of the volume of fresh water used and the properties of all of the papers were practically alike.

CONCLUSIONS

It cannot be inferred from the above observations that the decrease in the volume of white water used was responsible for the decreased density, opacity and gloss and the increased strength properties, but rather, that these effects were due to the decreased clay content of the paper, induced by the increased volume of fresh water. This conclusion is not contrary to the facts known in regard to the effect of clay on paper properties.

Whether white water utilization is desirable or undesirable as mentioned above depends on the properties required in the paper and the ability to adjust conditions to meet these requirements. Considered from this standpoint the extent to which white water may be used in a given mill depends on the quality of the raw materials, the equipment, and the skill of the operatives. Considered also from the standpoint of waste utilization, as large a use of white water as possible is not only a sensible and logical procedure but is also good business.

As mentioned above, we are continuing the study and expect to have it completed within the next month or so.

WASTES FROM DE-INKING OF OLD PAPERS

By C. C. Irving[3]

This is an age in which everything but the squeal is reclaimed and since the paper industry contains no squeal, the Department of Public Health and the Bank Balance require that the tail-race contain nothing detrimental to our neighbors or valuable to ourselves.

The manufacturers who de-ink old papers and magazines have waste water containing alkali, soaps, ink residues, and short paper fibers. The alkali is in a very dilute form, usually about .05 percent Na OH and is hardly recoverable even though a considerable weight is wasted every 24 hours.

The insoluble wastes should be recovered in order to permit re-use of water now wasted to save short fibers which go through washer moulds and to recover long fibers lost through accidental rips in wires, as well as to prevent stream pollution.

Methods

One method of recovery is to put the waste water together with a suitable amount of sweetener stock over a suction type filter. Here several difficulties are met. Since the waste water is alkaline, the resulting sludge must be washed with enough acid machine white water or other acid solution to neutralize it if it is to be re-used for making paper. The sweetener stock must be a chemically treated pulp since a ground wood sweetener will be attacked by and take up the alkali, which it may give up later to kill the size in any sheet in which the sludge is incorporated. It has been found impossible to free the ground wood from this alkali in a practical way. Even when a sulfite sweetener is used, the alkali is difficult to remove by washing even when washing showers are used after the sheet has been partially dried.

When a settling basin is used it is possible to separate 80 percent of the alkali before the sludge is passed over a filter to form a sheet or is used in the semi liquid form. If a coagulant is used in the settling basin, it may be possible to speed up the settling but practically all coagulants require an acid medium and the cost of coagulating is prohibitive.

The water recovered from the sludge normally is alkaline and contains dissolved soaps and emulsified ink which make it very dirty and useless except for use in further de-inking operations. If the de-inking waste has been acidified, the emulsions have been broken and the fatty acids and carbon particles are left with the fibers so the recovered water is very clear with only a slight yellowish tinge. This water could be used for certain grades of paper-making where a pure white color was not needed, or for diluting or washing.

Results

The reclaimed solids from de-inking operations contain from 50 to 75 percent clay, the fibers are usually very short and dark colored from absorbed ink. If recovered from acidified waste water the solids contain a large amount of carbon particles and fatty acids so it is much darker than from alkaline wastes.

Those manufacturers who make a dark colored product or a lined board can use some of this de-inking waste if they are willing to sacrifice quality to a slight extent. The changes which may be expected from the use of this material and an increased ream weight, decreased Mullen test, decreased tensile, decreased tearing resistance, little or no change in rigidity and a slowing up of the stock.

Besides its use in paper stock, other uses have been suggested for de-inking sludge such as recovering the clay by burning the ink and fiber. This operation, however, is very expensive and the color of the resulting clay is never as good as a good grade of China clay.

Another suggested use is as a filler for fiberboard or other heavy lined building material. For this purpose it must be used where it is made to save transportation costs on water, and it must be used in the wet form to save cost of evaporation.

One possible use is the manufacturing of moulded articles by using a proper adhesive. Plaster of Paris or cement would be desirable so the ever present water can be utilized. Toy and novelty manufacturers would do well to look into this source of raw material since the finished articles can be attractively colored and the source of supply is fairly constant.

[3] Chief chemist, Falulah Paper Co., Fitchburg, Mass.

Penick & Ford Sales Co. Joins TAPPI

The most recent addition to the company membership of the Technical Association of the Pulp and Paper Industry is the Penick & Ford Sales Company.

Penick & Ford Sales Company, Inc., of New York, Cedar Rapids, and New Orleans, the distributors of the products made by Penick & Ford Ltd., Inc. is vitally interested in the problems of the paper and pulp industries and the wish to join the "Tappi" was prompted by the desire to assist the members of this association in solving some of the problems which are daily confronting an industry as large as the paper and pulp manufacture.

In the well recognized service which Penick & Ford has rendered to the textile and allied industries for three decades, now broadened to include the paper and pulp manufacture, it has, of course, necessitated the addition of experts of this particular branch of applied science.

During the past year the staff of Penick & Ford, Ltd., in conjunction with the experts of the Sales Company, have developed new products (Clearsol, special gums, etc.) especially of value to the paper industry, and with the facilities which they possess in the form of laboratories, experimental plant units equipped with paper making and testing apparatus as well as their expert knowledge in the field of carbohydrates, it is only reasonable to expect that appreciable benefit will derive from co-operative work with the association.

Penick & Ford, successor to the Douglas Company—manufacturer of Starch and starch derivatives for the last thirty years, has its plant, which is devoted to the manufacture of products from corn, located at Cedar Rapids, Iowa where the research, testing and development laboratories are in close contact with the manufacturing division. This not only insures prompt attention but also proper understanding of the manufacturers demands and at the same time facilitates the scientific control for merchandise produced at the plant.

Penick & Ford has appropriated appreciable sums for its paper division and will conduct research work designed to produce not only new products but new methods which undoubtedly will in their application give effects to increase qualities, reduce costs, and insure uniform production of the varied products made by the paper mills of this country.

TAPPI Notes

Otto Kress, technical director of the Institute of Paper Chemistry sailed recently for the Fiji Islands where he will enjoy a vacation.

A. A. Hormel who has until recently been associated with the Fidalgo Drying Systems Inc. has joined the organization of the Improved Paper Machinery Company at Nashua, N. H.

About forty members and friends of TAPPI met on June 12 for dinner at Shoyers Restaurant in Philadelphia. Brief talks were made by R. G. Macdonald, secretary of TAPPI and by W. N. Greer of Leeds & Northrup Company, makers of hydrogen ion control instruments. C. W. Rivise acted as chairman and was assisted by H. P. Cannon of the Container Corporation. A committee was appointed to work up a plan of organization for a local Technical Association Section. The next meeting will be in September.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Price Indices In Business Improvement*

By Dr. Paul H. Nystrom[1]

During the past ten years there has been a marked increase in the use of indices of business conditions. American business men have become figure-minded. It has been discovered and amply demonstrated that the operation of modern business on a large scale, under conditions of wide markets and keen competition requires a grasp of details that only statistics and statistical methods can provide.

In response to the need for condensed statistics and general business conditions several types of business indices have been devised and are presented periodically both from official and private sources. A great many sorts of facts are regularly accumulated and reduced to index form not only so as to show the current situation but also the changes and the direction of such changes in the businesses affected.

Greatest Value of Business Indices

The fact that business indices show changes and the directions of such changes constitutes their greatest value. Isolated facts are, of course, meaningless but they may be of vital significance when considered in relation to other facts. Change, constant change, which characterizes present day business, constitutes the greatest problem. Inability to adjust one's business to meet these changes results in decline and failure. *In these changes, however, also lie the greatest possibilities for profit-making.* The value of indices lies in their presentation of facts of past changes and of current trends in such a way as to indicate what changes are likely to come in the future.

The oldest, most fundamental, and most useful of all business indices are those which present the facts concerning prices, changes in prices, price levels, and price trends. Prices indicate and measure market conditions. Prices represent the effective balance of supply and demand and consequently the forces of production and of consumption. Price indices constitute highly effective statistical guides to future trends and should be accurate, adequate and representative. It is also important that such indices should be properly interpreted and used.

There are now several varieties of price indices available to American business men. Some of them present wholesale prices and others retail. These names are not entirely fortunate. The term, wholesale prices, as used in connection with present business indices is not quite correct. Wholesale prices do not mean wholesalers' prices. Some confusion has arisen in the interpretation and use of such figures because of this misconception. Wholesale price indices are based on averages of prices of raw materials, producers' commodities and of merchandise bought for reproduction or for resale. Among the items usually included in wholesale price indices one may find raw materials sold at first hand, semi-processed goods sold by one producer to another, all sorts of commodities sold through commodity exchanges, and so on. Sales for which prices are recorded are made by producers, manufacturers, brokers, commission men, and traders. Wholesalers' transactions constitute the smallest part of the total. Retail price indices present the facts concerning prices of goods sold by retailers directly for consumption.

Wholesale Price Indices

There follows a list of the most important wholesale price indices together with some of their characteristics.

1. The U. S. Bureau of Labor Statistics monthly wholesale price index is the one most frequently referred to in this country and the one that most nearly bears official sanction. It has been regularly issued since 1902 but the Bureau has extended its studies into the past so that its record of prices goes back to the middle of the nineteenth century. This index of wholesale prices is based on averages of price quotations on 550 items comprised in ten different groups of commodities. Each commodity price average is weighted according to its volume of sales. The base year to which the index value of 100 is assigned is at present 1926. The ten groups of commodities include: a. Farm products such as grain, live stock, poultry and so on. b. Foods, such as butter, cheese, milk, meats, etc. c. Hides and leather products. d. Textile products. e. Fuel and lighting. f. Metal and metal products. g. Building materials. h. Chemicals and drugs. i. House furnishings goods. j. Miscellaneous.

This index presents a general summary figure for all commodities and also separate index figures for each of the ten groups. Statistics are also available for price changes in many of the individual commodities. It appears in the form of a preliminary press release about the 18th of the month following the month for which figures are compiled. The final report appears in the Monthly Labor Review which appears about the 25th of each month.

2. The National Fertilizer Association, a trade association made up of the producers and large distributors of commercial fertilizers, compile and issue a weekly whole-

[1] Professor of Marketing, Columbia University.
* Address given at U. S. Chamber of Commerce Meeting, Atlantic City, N. J., April 30, 1931.

sale price index using 476 items classified in fourteen groups. This index has the advantage of being weekly instead of monthly and of being based on a larger number of items than any other weekly price index. Its base is the average for the three years, 1926-1928. It is regularly issued on Mondays.

3. The *New York Times Annalist* weekly index of wholesale commodity prices shows average changes in prices of 72 items divided into eight groups of commodities.

4. Dun's Weekly includes a wholesale price index based on 300 items divided into seven main groups.

5. Bradstreet's Weekly presents a wholesale price index covering 96 items divided into thirteen main groups.

6. Irving Fisher's weekly wholesale price index is issued as a newspaper service or press release and is based on 120 items, of which thirty are for farm products. The computations are based on quotations given in Dun's Weekly. The base year is 1926.

7. The Harvard Committee on Economic Research, in connection with its business bulletin service, presents a monthly wholesale price index based on ten commodities which are described as highly sensitive to changes in business conditions. These items include pig iron, hides, cotton seed oil, cotton prints, etc.

8. The Guaranty Trust Company of New York monthly wholesale price index is issued as a part of its bulletin service to its customers and the public. It is based on the prices of 23 commodities as of the 15th of each month. These commodities, like those used in the Harvard index, are selected for their sensitivity to business conditions. The median percentage change from the preceding month is taken as the index for the current month. Its based period is 1923-1925. Its value lies in its sensitivity and in the fact that it is compiled during the middle of each month and is promptly published thereafter.

9. The U. S. Department of Agriculture indices of farm prices and of goods bought by farmers may perhaps be included here as indices of wholesale rather than of retail prices. The index of farm prices includes groups such as cotton and cotton seed, dairy products, poultry products, meats, animals, grains, fruits and vegetables. The index of prices paid by farmers comes more nearly being a retail price index. However, it includes average prices of goods purchased for farm use as well as for final consumption. There are included building materials, feed, machinery, equipment, fertilizers, seed, food, house furnishings and clothing.

10. Most of the leading countries of the world now compile wholesale price statistics, the most useful for American business purposes being the wholesale price indices of England, Germany (since 1924) and Japan. The indices of France and Italy have shown wide variations from the foregoing because of wide differences in the value of money. Both countries have since the World War carried on with a highly depreciated currency.

The various wholesale indices show the same general trends but considerable variations in extent of price declines. For example, during the year ending in December, 1930, the Bureau of Labor Statistics wholesale price index declined 16.8 per cent; Dun's index declined 14 per cent; Bradstreet's index declined over 18 per cent,, while the Guaranty Trust Company index declined over 20 per cent.

Retail Price

There are neither so many nor so comprehensive retail price indices as there are for wholesale prices. Retail price indices are neither as accurate nor as representative as the wholesale price indices. Complexities of retail selling, the lack of standardized commercial exchanges such as found in the raw commodity markets, the individuality of retail transactions, the variety and wide differences in qualities and services make it very difficult to compile retail prices that may be useful and fairly adequate as retail price indices. The following are the best of the indices of retail prices that appear regularly.

1. The U. S. Bureau of Labor Statistics monthly index of retail food prices is not only the best known but is also the best prepared by them all. Averages are computed from actual prices on about 40 commodities reported by retail dealers from 51 cities scattered throughout the country. The list of items consists of 11 varieties of meats and fish, 5 dairy products, 8 cereals, and 16 other miscellaneous items. The base year is 1913. This index and the details of prices for the 51 cities is reported in the Monthly Labor Review.

2. The U. S. Bureau of Labor Statistics index of retail prices of coal in the U. S. is published monthly for the same 51 cities in the Monthly Labor Review.

3. The U. S. Bureau of Labor Statistics retail price index of gas and electricity for household use is published semi-annually. It, too, is based on information collected from 51 cities and is reported in the Monthly Labor Review.

4. The U. S. Bureau of Labor Statistics "Cost of Living" index represents the most ambitious attempt in this country to depict changes in retail prices. This index is published semi-annually. It includes figures for food, fuel and light, clothing, rent, house furnishings, and miscellaneous items. The food, fuel and light figures are those compiled by the Bureau of Labor Statistics, referred to above, issued monthly. Prices on clothing, home furnishings, rent, and miscellaneous items are gathered by questionnaires and personal visits of representatives of the Bureau who visit 32 cities semi-annually for this purpose. The cost of living index is intended to present changes in the prices of commodities such as used by laborers and their families and lower salaried workers. It is in no sense intended to serve as a general index of retail prices. Its base is 1913.

5. The National Industrial Conference Board index of cost of living is issued monthly. Its function is much the same as the semi-annual index of cost of living of the Bureau of Labor Statistics excepting that it offers the advantage of a monthly rather than a semi-annual review and index. Its base is 1914.

6. The Massachusetts Commission on the Necessaries of Life prepares and issues a monthly index of the cost of living covering about the same groups of items as the index of the National Industrial Conference Board but using different methods of obtaining prices. Its value in comparison with the cost of living index of the Bureau of Labor Statistics is like that of the National Industrial Conference Board's index. It appears monthly instead of semi-annually. Its base is 1913.

Various other efforts, some experimental and sporadic but interesting in possibilities, include the proposals for new indices of costs of living by the National Bureau of Economic Research and by Professor Paul Douglas. The latter's studies have appeared in his great work on "Real Wages in the U. S."

Most of the criticisms and suggestions for improvement of retail price indices are usually aimed at the U. S. Bureau of Labor Statistics index of cost of living. While the cost of living index was never intended to serve as a general index of retail prices, many interests have expressed their desire to see this index or another like it developed to serve this purpose. Some of the criticisms

concern the list of items for which prices are compiled. In others the relative importance or weight to be attached to each of these items in making the general averages for the group is attacked; thus the U. S. Bureau of Labor assigns a weight of 38.2 per cent for food out of a total 100 per cent covering all commodities. The Industrial Conference Board assigns but 33 per cent for food. The Bureau of Labor Statistics assigns 16.6 per cent weight to clothing whereas the National Industrial Conference Board assigns but 12 per cent and so on. There seem to be excellent reasons for extending the cost of living index into a real retail price index.

Uses Made of Price Indices

We may next consider briefly some of the uses to which the foregoing price indices are applied.

1. A good price index is or should be a guide to business conditions. As stated at the beginning, prices measure the relations of supply and demand and therefore, roughly, the conditions of production and consumption. It is necessary to be sure, to distinguish between specific and general price changes. Changes in the prices of specific commodities, or even within an industry, reflect changes in production and consumption. General price changes, however, point to the likelihood that the changes are in the value of money rather than in the supply of and demand for individual commodities. A change in prices of a given commodity or even of a group of commodities should lead business executives to make changes in operation. A change in general price levels, however, points to the need for general credit control and more effective central financial policy. General increases in price levels bring feelings of false pride and security in business, while general declines in prices force artificial retrenchments and disasters.

2. Price indices are used as aids by individual concerns in planning production, buying raw materials, making stock accumulations, making plant extensions and so on. They similarly serve the wholesaler and the retailer as aids in planning future purchases and in determining current stock limits.

3. *Price indices serve as aids in budgeting, not only of production, but also all costs of operation.*

4. Price indices accurately interpreted, aid in forecasting the net values, earnings, and security prices of business concerns.

5. Price indices serve effectively as aids in proper pricing of individual products. Differentials from the general levels of the class to which the individual product belongs must, of course, be based on differences in qualities or services broadly considered. Neither producers nor dealers can long disregard competitive price levels on products of comparative utilities without hurting sales. Price indices show both producers and dealers the ways of opportunity and of necessity in price making.

6. Changes indicated in price indices are frequently used as sales arguments particularly when it can be shown that price trends are stabilized, are as low as they may go, or are likely to rise. Postponement of purchases may under such conditions be unwise and the use of the indices may be excellent sales strategy.

7. Price indices have during recent years been used in many instances as a basis for the adjustment of wages in labor disputes.[2] Under conditions of rising prices the indices have been effectively used as arguments by employees seeking higher wages. Under conditions of declining prices they have similarly been called into use by employers. Probably no better method of adjustment of basic wage rates has been found than the reference to accurately compiled price statistics showing the costs of living and retail prices of the necessaries of life.

8. Price indices should constitute an effective source of information to bankers and financial houses to assist in the control of credit and of all kinds of financial operations. In the light of the experience of this country during the past few years it may be regretted that bankers have not made better use of this information than they have. Declining price levels should be a sign to tighten up credit particularly to those industries affected by such prices. Post mortem analysis of business conditions of 1925 to 1929 seems to indicate that the banks expanded their loans and gave more liberal credit continuously as prices declined.

9. Price indices should be an effective aid to the government in its conduct of public work and in its purchasing policies. It does not seem an impossible ideal that governments as well as business organizations should plan to buy and to make committments for future needs when prices are low and should retrench activities automatically when price trends are rising.

10. There are many competent students of business and of government who maintain with excellent logic that central banks could by control of discount and rediscount rates and by carefully considered money market operations, prevent general price changes. That there is something in this theory has been amply demonstrated. In every case in which a country has set out to adjust its money values to the gold standard it has proved the possibility of controlling the value of money. Such control has been successfully applied repeatedly. If general price levels can be adjusted to gold values, as has been repeatedly stated, then it may be safely assumed that they could equally well be fixed at any other point. This leads to the conclusion that a wisely directed central bank policy, such as might have been carried out by the Federal Reserve Banks of the U. S., could have prevented the general decline of prices that has occurred in the U. S. since 1925. Also, the Federal Reserve System may fairly be charged with the responsibility for control of general price levels in the future.

This idea has a deep significance in our consideration of the improvement of our price indices. The responsibilty of the government and Federal Reserve system for the maintenance of a stable general price level cannot be properly executed without price indices that are accurate, adequate, and properly representative.

Criticisms of Present Price Indices

General price changes and particularly price declines invariably cause economic unrest and disaster. The rapid decline in business that has occurred during the last eighteen months, particularly since the panic of 1929, has brought on economic loss, suffering and despair unparalleled in the history of this country and seldom, if ever, equalled in any other country in the world. However, the character of the effects of this decline have been much the same as they were following the rapid decline of prices in 1920-1921, 1907, 1893 and other similar periods. Sharp necessity has resulted in the scrutiny of every possible cause as well as of every possible aid for getting out of the present situation and preventing recurrences of such catastrophies. It is not surprising then that the price indices which directly record the disastrous declines should come in for critical examination, not only as to accuracy but also as to possible interpretations. Among the criticisms of our price indices which have been most frequently made are the following:

[2] See "Use of Cost of Living Index in Wage Adjustments," by Elma B. Carr, Bulletin No. 369, U. S. Bureau of Labor Statistics, May, 1925.

1. Both wholesale and retail price indices are believed by many to contain serious errors. The prices used in compiling the averages are often from secondary sources hastily and carelessly put together. Moreover, even with the best of effort, published prices do not usually reveal all details of business transactions. Despite the publication of general prices it may not be denied that a large part of the business of the country, particularly on manufactured goods, is done on a special or individual basis in which terms, allowances, discounts, and other similar matters are important considerations. In the compilation of the current price indices it is usually the rule to disregard all but "regular" prices. Prices made at special sales, for example, are omitted. It may be seriously questioned whether the volume of goods sold through special sales of one kind or another is not now so great as to make the price indices that exclude such prices somewhat artificial.

2. One of the most serious criticisms of the government indices is their slowness of issue. They come out too late to do any good. The present tempo of business is very high. Monthly figures, particularly when not issued until the latter part of the following month, are almost ancient history. Business trends are well on their way before the news of their appearance comes out. Semiannual or annual figures are, of course, still less useful.

3. Another criticism of nearly all price indices is their inadequacy. For example, both the wholesale and retail price indices of the U. S. Bureau of Labor Statistics undoubtedly give an undue proportion to prices of raw materials and commodities semi-processed. Manufactured goods do not receive sufficient attention. This is true for the wholesale price index and even more true for the retail price index. The Bureau of Labor Statistics cost of living index presents a wholly inadequate compilation of price statistics on clothing, furniture and house furnishings, and miscellaneous items. Important as automobiles, radios and electrical appliances are in present day American consumption, there are no price statistics included for these items at all.

4. The Bureau of Labor cost of living index is sometimes criticized for the reason that it does not adequately represent retail prices. As already stated, it is intended specifically to present price changes on commodities bought by people with rather low standards of living. This makes it entirely unsatisfactory and inadequate as a general measure of retail prices. It is, however, frequently but wrongfully used for this purpose.

A favorite misuse of this index is to compare its changes and trends despite the fact that it is not fairly comparable in anyway with those of the index of wholesale prices. In ordinary times and stable price conditions, with gradual changes up and down, the two indices do fairly parallel each other, but under conditions of rapid change either up or down, the cost of living index lags far behind the wholesale price index.

In a period of rapidly declining prices such as we have gone through during the past eighteen months there is a widespread tendency to jump to the conclusion that retailers are holding up prices and preventing prompt economic readjustment, at the same time forgetting that the same lag occurs during periods of rising prices. Both conditions are natural and orderly. The variations are due, in part, to the differences in commodities listed. Manufactured goods enter more largely into retail price indices than into wholesale, the prices of manufactured goods are usually much more stable than the prices of raw materials. Retailers' prices are determined to a considerable extent by the amount and variety of stocks on hand. Retailers are prone to sell or to try to sell at the old prices both during rising and falling price periods until they replenish their stocks. It may be noted in passing that retailers prices, notwithstanding the retail indices, now probably follow wholesale price levels more closely than in former years. That is a natural result of present methods of retail buying. Furthermore a 20 per cent drop in wholesale prices could not possibly be accompanied by an equal drop in prices at retail without an equal drop in retail expenses that make up from 20 per cent to 30 per cent of retail prices. Finally the methods used in compiling price information for the indices is strongly responsible for the wide variation between the wholesale and retail price indices. For example how can a retail price index properly show price declines in a period of rapidly falling prices when all special sales prices are disbarred?

Several discrepancies result from the method used in compilation. Undoubtedly those parts of the index covering food, fuel and light prices are the most accurate. During the year ending December, 1930 food prices showed a decline of 13.2 per cent and fuel and light 2.1 per cent.

According to the index there was a decline of but 4.7 per cent in clothing and 4.8 per cent in house furnishing goods. These figures, to anyone who is familiar with the clothing and furniture businesses and knows something of their experiences during the past year, are simply ridiculous and absurd. They can only be explained on the basis that all sales at cut prices were strictly omitted in a year when cut prices were the rule. Actually the price declines on most items of clothing and home furnishings during the past year must have been several times these amounts and certainly greater than the declines in food prices. These declines will not register in the index until prices are regularly established at those new and lower levels.

Furthermore the classifications or groupings of items employed in the cost of living index are subject to reasonable criticism. These groupings now include food, clothing, housing, fuel and light, furniture and furnishings and sundries. A more logical classification would separate house operation items from home furnishings and would set up new classifications for taxes, health maintenance, insurance and would surely provide a separate group for automobile and automobile supplies and accessories.

5. Price indices are and may always be criticized for the limited number of items included. There will always be difficulties in securing the statistics of desired actual prices. This criticism may be only remedied relatively. Certainly, however, the government indices could be improved by the collection of more price statistics of manufactured goods ready for consumption. It should also be possible to secure prices from a large number of communities including small towns as well as the larger cities.

6. Another criticism of most price indices is that they show merely the averages and averages are dangerous. A price change in a single commodity, if important enough, may result in affecting what appears to be a change in trend for all commodities of the group. This is a serious drawback. Any price index would be more accurate and at the same time more helpful if it indicated not only the average price but also the number of increases and decreased making up the average and the range of variations.

Recommendations

The foregoing criticisms of current price indices are presented in all sincerity and with the belief that con-

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structive measures may be taken to remedy the obvious weaknesses. There is a growing necessity for accurate, representative price indices. They are needed increasingly by business organizations and individual business executives. They are absolutely essential to banks and financial institutions. We are certain to have increases in social legislation which will depend for sound administration upon accurate facts as to market and business conditions. It is hoped that the Chamber of Commerce and its constituent trade associations will urge prompt adoption of steps to secure a better system of price indices. The following recommendations are offered for consideration and with the hope that they may form the basis for constructive action.

1. One of the most obvious needs is that there should be a complete system of accurate, adequate, effective and representative *official* price indices. At the present time there is much confusion over the issue of price indices from several different government departments and bureaus as well as from private sources. It may be urged that the Department of Agriculture is in the best position both by contacts and experience to compile agricultural price indices. Similarly it may be urged that the Bureau of Labor Statistics is the best possible place to compile retail prices and cost of living statistics since they have such important bearing on labor and wage conditions.

The Department of Commerce and Federal Reserve Board may be the best source for gathering other important price information. The business man is not at all interested in government technicalities of operation, but would like to get some authoritative indices regularly and promptly. It is suggested here that business interests ask the government to concentrate the issue of business indices through some one channel.

2. More important still is the necessity for prompt, speedy publication of the official indices. The National Fertilizer Association has indicated the practical possibilities of issuing a very comprehensive weekly report on price changes. Certainly the official wholesale price index should be issued weekly and the retail price (cost of living) index at least monthly until methods of collection and compilation have been worked out to place even this index upon a weekly basis as well.

3. Provision should be made to insure that price indices shall represent: a. Actual market conditions and actual prices. b. Sales of goods of active, present, general use. c. Transactions occuring in all common places of trade including chain stores, house to house selling, mail order houses, auctions, special sales, and so on, weighted according to the proportion of business done.

4. A reclassification of items and commodities is needed in the general price indices. In the wholesale price indices it is urged that there should be separate indices for: a. Producers' raw materials, that is goods intended for manufacture. b. Consumers' raw materials sold at primary markets. c. Manufacturers' prices. d. Wholesalers' prices. e. The items should again be reclassified to show changes in domestic, export and import prices. f. There should be still another reclassification to show price changes by groups and lines of commodities along the same lines carried out in the more important wholesale price indices as at present. g. It would also be desirable to have periodical reviews of price changes by geographical areas throughout the country.

5. It has already been pointed out that with the exception of retail food, fuel and light prices there is no adequate representative index of retail prices. Consequently it is urgently recommended that provision be made for an official series of retail price indices to include: a. Farm products at retail. b. Manufactured goods at retail. c. Prices of personal service purchased by consumers. d. These items should again be reclassified to show price changes by items and by groups of commodities, and if possible, by geographical areas. e. The cost of living index should be extended so as to include general retail prices with the possibility of computing the cost of living changes not only for the lower standards of living but for the middle classes and higher standards as well.

6. It is especially urged that both wholesale and retail price indices be provided to show accurately and adequately price changes in clothing, furniture, home furnishings and automobiles bought at wholesale and at retail. Retail price data upon these as well as other items need to be collected from a greater number of lines, from a greater number of communities to insure a fair sampling of retail price conditions throughout the country.

7. To aid the Bureau of Labor Statistics in arriving at an accurate basis of weighting its present cost of living index it is urgently necessary that provision should be made for securing a new and comprehensive study of the costs of living of a representative number of people throughout the country.

The last study of this type was made during the years 1918-1919, at a time of abnormal economic conditions. It is certain that standards of living have changed greatly since that time yet the present cost of living index is based upon the findings of that study and industrial institutions as well as business men refer to it continuously as if it were an accurate authority.

It is urged that provision be made for continuous periodical surveys of an adequate number of American families to surve as samples in setting up typical American budgets. Probably such studies should be made as often as every five years and certainly not less than once every ten years. It is now twelve years since the last study was made.

It is also urged that in the next cost of living study provision be made to secure information concerning budget requirements of people at various standards of living as determined by their income, the size of family, geographical differences, and skill in management. Such studies properly carried out and promptly published would prove of inestimable value to business as well as to the Bureau of Labor Statistics in establishing cost of living indices.

8. There is a definite demand and need for a set of comparable wholesale and retail price indices compiled on the same or similar products at about the same time showing the price trends both in the primary and retail markets. It seems possible that if the present Bureau of Labor Statistics indices are revised and enlarged along lines somewhat like those suggested here, it may be possible to segregate appropriate figures from the wholesale and retail price indices respectively to present a fair picture of the trends in each of these fields. Certainly we need to have this information in order to check and evaluate the relative progress made in price adjustments in these two fields. Such a comparison is, as we have already seen, impossible now.

These eight recommendations cover much needed changes and additions in our present inadequate price indices. Accurate facts and practical measures of such facts are first steps, but very important steps to business recovery and to sound business progress in the future. The final recommendation is that the Chamber of Commerce should take cognizance of these needs and exert its aid to the appropriate governmental departments so that some beneficial action may result.

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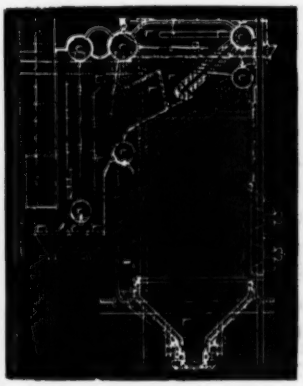

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NEW YORK IMPORTS

WEEK ENDING JUNE 13, 1931

SUMMARY

Cigarette paper	34 bls., 687 cs.
Wall paper	5 bls., 15 cs.
Paper hangings	6 bls., 7 cs.
Painted paper	2 cs.
News print	6992 rolls, 69 bls.
Printing paper	25 rolls, 91 cs.
Wrapping paper	7 cs.
Packing paper	20 cs.
Drawing paper	6 rolls, 31 cs.
Filter paper	60 bls., 22 cs.
Colored paper	2 cs.
Surface coated paper	144 cs.
Baryta coated paper	10 crates, 102 cs.
Coated paper	4 cs.
Metal coated paper	14 cs.
Basic paper	105 rolls
Transfer paper	28 cs.
Decalcomania paper	33 cs.
Photo paper	2 cs.
Cover paper	4 cs.
Tissue paper	4 cs.
Tissue paper caps	2 cs.
Writing paper	6 cs.
Envelope paper	85 pkgs.
Envelopes	2 cs.
Adhesive paper	6 cs.
Litho paper	20 cs.
Wafer paper	10 cs.
Carbon paper	1 cs.
Fancy paper	1 cs.
Waxed paper	3 cs.
Paper board	8 cs.
Paper tubes	29 cs.
Paste boards	50 cs.
Card board boxes	22 cs.
Miscellaneous paper	49 cs.

CIGARETTE PAPER

C. L. Voorhees, C. Biancamano, Genoa, 4 cs.
Max Spiegel & Sons Co. Inc., Pr. Adams, Genoa, 34 bls.
Standard Products Corp., Lafayette, Havre, 18 cs.
Champagne Paper Corp., Liberty, Havre, 188 cs.
Brown & Williamson Tobacco Co., Aquitania, Southampton, 5 cs.
Brown & Williamson Tobacco Co., Paris, Havre, 5 cs.
American Tobacco Co., Paris, Havre, 400 cs.
Standard Products Corp., Paris, Havre, 67 cs.

WALL PAPER

R. F. Downing & Co., Pr. Grant, Kobe, 9 bls.
——, Lapland, Antwerp, 3 cs.
A. C. Dodman Jr. Inc., Amer. Trader, London, 2 bls.
F. J. Emmerich, St. Louis, Hamburg, 3 bls.
Irving Trust Co., St. Louis, Hamburg, 5 cs.
Bendix Paper Co., Hamburg, Hamburg, 5 cs.
Globe Shipping Co., Hamburg, Hamburg, 1 cs.
Thomas & Pierson, Aquitania, Southampton, 1 cs.

PAPER HANGINGS

Schmidt & Pritchard, Paris, Havre, 2 bls.
Bush Service Corp., Paris, Havre, 5 cs.
Bush Service Corp., Lafayette, Havre, 1 cs.
Whiting & Patterson Co., Inc., Aquitania, Southampton, 4 bls., 1 cs.

PAINTED PAPER

F. J. Emmerich, Paris, Havre, 2 cs.

NEWS PRINT

Jay Madden Corp., Gen. von Steuben, Bremen, 1047 rolls, 69 bls.
Jay Maddon Corp., Bird City, Kotka, 468 rolls.
——, Bird City, Kotka, 443 rolls.
Perkins Goodwin & Co., St. Louis, Hamburg, 179 rolls.
International Paper Co., Primero, Dalhousie, 4497 rolls.
Parsons & Whittemore, Inc., Pr. Harding, Hamburg, 185 rolls.
——, Hamburg, Hamburg, 173 rolls.

PRINTING PAPER

P. C. Zuhlke, Lapland, Antwerp, 2 cs.
C. Steiner, Gen. von Steuben, Bremen, 37 cs.
J. Galvin, Gen. von Steuben, Bremen, 2 cs.
International F'd'g Co., H. Jaspar, Antwerp, 8 cs.
E. Dietzgen & Co., Volendam, Rotterdam, 32 cs.
Hensel Bruckman & Lorbacher, St. Louis, Hamburg, 3 cs.
Keuffel & Esser Co., Pr. Harding, Hamburg, 7 cs., 26 rolls.

WRAPPING PAPER

Sylvania Industrial Corp., Lapland, Antwerp, 2 cs.
F. C. Strype, Lapland, Antwerp, 5 cs.

PACKING PAPER

Chase National Bank, H. Jaspar, Antwerp, 20 cs.

DRAWING PAPER

Artists Brush & Color Co., Amer. Trader, London, 1 cs.
C. H. Boulin, Paris, Havre, 1 cs.
Keuffel & Esser Co., Pr. Harding, Hamburg, 29 cs., 6 rolls.

FILTER PAPER

H. Reeve Angel & Co., Inc., Amer. Trader, London, 9 cs.
E. Dietzgen & Co., Amer. Trader, London, 2 cs.
H. Reeve Angel & Co., Inc., Homeric, Southampton, 1 cs., 60 bls.
Hensel Bruckman & Lorbacher, Glasgow Maru, Hamburg, 10 cs.

COLORED PAPER

F. L. Kramer & Co., Gen. von Steuben, Bremen, 2 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Lapland, Antwerp, 81 cs.
P. C. Zuhlke, Lapland, Antwerp, 2 cs.
Phoenix Shipping Co., St. Louis, Hamburg, 11 cs.
Phoenix Shipping Co., Pr. Harding, Hamburg, 50 cs.

BARYTA COATED PAPER

Globe Shipping Co., Gen. von Steuben, Bremen, 101 cs.
J. H. Schroeder Banking Corp., Gen. von Steuben, Bremen, 10 crates, 1 cs.

COATED PAPER

W. A. Foster & Co., Amer. Trader, London, 4 cs.

METAL COATED PAPER

K. Pauli Corp., Hamburg, Hamburg, 14 cs.

BASIC PAPER

C. Bruning Co., Volendam, Rotterdam, 105 rolls.

TRANSFER PAPER

F. L. Kramer & Co., Gen. von Steuben, Bremen, 28 cs.

DECALCOMANIA PAPER

Phoenix Shipping Co., Gen. von Steuben, Bremen, 1 cs.
C. W. Sellers, Hamburg, Hamburg, 17 cs.
C. W. Sellers, Bremen, Bremen, 4 cs.
L. A. Consmiller, Bremen, Bremen, 11 cs.

PHOTO PAPER

J. H. Schroeder Banking Corp., Bremen, Bremen, 2 cs.

COVER PAPER

International F'd'g Co., Hamburg, Hamburg, 4 cs.

TISSUE PAPER

F. C. Strype, C. Biancamano, Genoa, 3 cs.
W. J. Byrnes, Homeric, Southampton, 1 cs.

TISSUE PAPER CAPS

J. Marks, Glasgow Maru, Hamburg, 2 cs.

WRITING PAPER

Strauss Bros. & Co., Adriatic, Liverpool, 4 cs.
Distinctive Writing Paper Co., Paris, Havre, 2 cs.

ENVELOPE PAPER

J. P. Heffernan Paper Co., Habana, Bilbao, 85 pkgs.

ENVELOPES

Simfred, Inc., Hamburg, Hamburg, 2 cs.

ADHESIVE PAPER

Heemsoth Basse & Co., Volendam, Rotterdam, 6 cs.

LITHO PAPER

B. Meiners, Defiance, Shanghai, 20 cs.

WAFER PAPER

Ipex, Volendam, Rotterdam, 10 cs.

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W. A. Foster & Co., Amer. Trader, London, 1 cs.

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Schall & Co., Paris, Havre, 1 cs.

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Chase National Bank, Gen. von Steuben, Bremen 3 cs.

PAPER BOARD

Colmar Paper Corp., Lapland, Antwerp, 8 cs.

PAPER TUBES

Thomas & Co., St. Louis, Hamburg, 29 cs.

PASTE BOARDS

Coty Processing Co., Paris, Havre, 50 cs.

CARD BOARD BOXES

F. B. Vandegrift & Co., St. Louis, Hamburg, 22 cs.

MISCELLANEOUS PAPER

Corn Exchange Bank, Pr. Grant, Kobe, 25 cs.
C. L. Voorhees, Kwanto Maru, Yokohama, 4 cs.
H. Reeve Angel & Co., Inc., Kwanto Maru, Yokohama, 5 cs.
T. N. Fairbanks Co., Kwanto Maru, Yokohama, 2 cs.
Walker Goulard Plehn Co., Volendam, Rotterdam, 5 cs.
T. N. Fairbanks Co., Volendam, Rotterdam, 1 cs.
Keller Dorian Paper Co., Paris, Havre, 4 cs.
Devoe & Raynolds Co., Paris, Havre, 1 cs.
Japan Paper Co., Paris, Havre, 2 cs.

RAGS, BAGGINGS, ETC.

Baring Bros. & Co., Cameronia, Glasgow, 41 bls. paper stock.
Castle & Overton, Inc., Cameronia, Glasgow, 55 bls. rags.
——, Cameronia, Glasgow, 110 bls. rags.
——, Gen von Steuben, Bremen, 8 bls. bagging.
A. E. Claus, Kwanto Maru, Kobe, 20 bls. rags.
R. F. Downing & Co., Volendam, Rotterdam, 98 bls. rags; 27 bls. bagging.
——, London Exchange, Dundee, 70 bls. paper stock.
E. J. Keller Co., Inc., London Exchange, ——, 57 bls. flax waste.
A. W. Fenton, Inc., Glasgow Maru, Hamburg, 94 bls. rags.
——, Edison, Piraeus, 30 bls. rags.
V. Galaup, Liberty, Dunkirk, 44 bls. rags.
Darmstadt Scott & Courtney, Liberty, Dunkirk, 47 bls. rags.
——, Liberty, Havre, 140 bls. bagging.
V. Galaup, Liberty, Havre, 287 bls. rags.
Banco Coml Italiane Trust Co., Giulia, Venice, 205 bls. bagging.

(Continued on page 56)

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Imports of Paper and Paper Stock

(*Continued from page 54*)

A. W. Fenton, Inc., Giulia, Trieste, 51 bls. rags.

OLD ROPE

Banco Coml Italiane Trust Co., Volendam, Rotterdam, 106 coils.
Brown Bros. & Co., Habana Coruna, 38 coils.

CASEIN

A. Hurst & Co., Paris, Havre, 117 bags.

WOOD PULP

Lagerloef Trading Co., Malmen, Mantyluoto, 155 bls. sulphite.
Lagerloef Trading Co., Malmen, Raumo, 1715 bls. sulphite; 260 bls. mechanical pulp.
Lagerloef Trading Co., Malmen, Tolkis, 662 bls. sulphite.
Bulkley Dunton & Co., Gonzenheim, ——, 4000 bls. wood pulp.
Stora Kopperberg Corp., Gonzenheim, Skutskar 1150 bls. woodpulp.
Pagel Horton & Co., Inc., Gonzenheim, Gefle, 5250 bls. sulphite.
——, Gonzenheim, Gefle, 168 bls. pulp residue.
Stoera Kopperberg Corp., Gonzenheim, Norrsundet, 5000 bls. sulphate.
M. Gottesman & Co. Inc., Gonzenheim, Norrsundet, 3375 bls. sulphite, 675 tons.
Perkins Goodwin & Co., Bird City, Sundsvall, 1250 bls. sulphite; 2000 bls. sulphate.
Castle & Overton, Inc., Hamburg, Hamburg, 1357 bls. wood pulp, 272 tons.

WOOD PULP

Castle & Overton, Inc., Glasgow Maru, Hamburg, 350 bls. wood pulp, 59 tons.
Brown Bros. Harriman & Co., Glasgow Maru, Hamburg, 741 bls. wood pulp, 111 tons.
M. Gottesman & Co. Inc., City of Alton, Rotterdam, 275 bls. sulphate, 27 tons.
Bulkley Dunton & Co., Karpfanger, ——, 5750 bls. wood pulp.

WOOD FLOUR

A. Kramer & Co., Volendam, Rotterdam, 400 bags.
State Chemical Co., Volendam, Rotterdam, 400 bags.
State Chemical Co., City of Alton, Rotterdam, 568 bags, 32680 ks.

BALTIMORE IMPORTS

WEEK ENDING JUNE 13, 1931

Stora Kopperberg Corp., Gonzenheim, Skutskar, 875 bls. wood pulp.
Bulkley Dunton & Co., Gonzenheim, ——, 2250 bls. wood pulp.
Irving Trust Co., Bird City, Helsingfors, 450 bls. wood pulp, 76 tons.
Parsons & Whittemore, Inc., Bird City, Helsingfors, 300 bls. wood pulp, 50 tons.

NEW ORLEANS IMPORTS

WEEK ENDING JUNE 13, 1931

Hibernia Bank & Trust Co., Giulia, Venice, 280 bls. bagging.
——, Giulia, Venice, 43 bls. bagging.

HOUSTON IMPORTS

WEEK ENDING JUNE 13, 1931

Banco Coml Italiane Trust Co., Giulia, Venice, 53 bls. bagging.
——, Giulia, Naples, 70 bls. thread waste.

PHILADELPHIA IMPORTS

WEEK ENDING JUNE 13, 1931

Hoffman Lion Mills, Lisbon Maru, Kobe, 140 bls. rags.
J. M. Hagy Waste Works, Lisbon Maru, Kobe, 50 bls. rags.
P. Corr & Son Inc., Lisbon Maru, Kobe, 85 bls. rags.
H. G. Lichtenstein, Lisbon Maru, Kobe, 100 bls. rags.
E. J. Keller Co. Inc., Exmouth, ——, 98 bls. rags.
Lancaster News, Bird City, Kotka, 54 rolls news print.
——, Bird City, Kotka, 54 rolls news print; 2201 bls. sulphate, 340 tons; 5050 bls. sulphate, 967 tons.
Perkins Goodwin & Co., Bird City, Sundsvall, 600 bls. wood pulp; 500 bls. sulphite.
W. J. Jones & Co., Liberty, Havre, 1 cs. wall paper.
V. Galaup Liberty, Havre, 187 bls. rags.
E. J. Keller Co. Inc., West Arrow, ——, 172 bls. rags.

CAMDEN IMPORTS

WEEK ENDING JUNE 13, 1931

Lagerloef Trading Co., Bird City, Kotka, 6256 bls. sulphate, 1044 tons.

BOSTON IMPORTS

WEEK ENDING JUNE 13, 1931

Lagerloef Trading Co., Malmen, Raumo, 310 bls. sulphite.
Lagerloef Trading Co., Malmen, Tolkis, 1060 bls. sulphite.
Stone & Downer, Malmen, Kotka, 41 rolls news print.
Lagerloef Trading Co., Malmen, Kotka, 1566 bls. sulphite; 39 bls. wood pulp boards.
A. Johnson Co., Inc., Lagaholm, Gothenburg, 390 rolls wrapping paper.
J. Andersen & Co., Lagaholm, Gothenburg, 2300 bls. sulphite.
Parsons & Whittemore, Inc., Lagaholm, Gothenburg, 240 bls. sulphite; 150 bls. sulphate.
Perkins Goodwin & Co., Lagaholm, Gothenburg, 381 bls. sulphite; 254 bls. sulphate.
Johaneson Wales & Sparre, Inc., Lagaholm, Gothenburg, 299 bls. kraft soda.
G. F. Malcolm, Scythia, Liverpool, 2 cs. tissue paper.
W. N. Procter & Co., Scythia, Liverpool, 2 cs. tissue paper.
Stone & Downer, Scythia, Liverpool, 5 cs. surface coated paper.
1st National Bank of Boston, Bellflower, Manchester, 62 coils old rope.
International Paper Co., Primero, Dalhousie, 3100 rolls news print.
Atkinson Haserick Co., Pr. Adams, Genoa, 3 cs. paper.
E. J. Keller Co. Inc., West Harcuvar, ——, 206 bls. bagging.
Bulkley Dunton & Co., Tortugas, ——, 500 bls. wood pulp.
Bulkley Dunton & Co., A. Leonhardt, ——, 3375 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING JUNE 13, 1931

Lagerloef Trading Co., Malmen, Mantyluoto, 4085 bls. sulphite.
Lagerloef Trading Co., Malmen, Raumo, 8928 bls. sulphite; 520 bls. mechanical pulp.
Lagerloef Trading Co., Malmen, Tolkis, 5202 bls. sulphite.
Lagerloef Trading Co., Malmen, Kotka, 5098 bls. sulphite; 930 bls. sulphate.
Waterfalls Papermills Co., Lagaholm, Gothenburg, 6500 bls. wood pulp.

Pulp Exports from Sweden Decrease

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 17, 1931.—Pulp and paper exports from Sweden during the first four months of this year were generally lower than during the corresponding period last year according to reports received by the Department of Commerce.

The heaviest decrease was in shipments of unbleached sulphite, which declined nearly 90 per cent. Considerable reductions also occurred in shipments of kraft pulp and boards, which were 40 per cent less than in 1930, and in mechanical groundwood, news print, and kraft wrapping, which declined by 20 to 25 per cent. Bleached sulphite exports were nearly on a level with last year, while in sulphite wrappings and vegetable parchment and greaseproof papers slight increases were registered.

New Booklet on Magnetic Clutches

"Keeping Pace with Machine Design" is the title of a new booklet just published by Cutler-Hammer, Inc., 291 N. 12th St., Milwaukee, Wis. The booklet details the construction, operation and application of C-H Magnetic Clutches, including a full description of the newly developed C-H Duplex Clutch. There are many installation photographs showing magnetic clutches applied to various types of machines. The schematic diagrams which demonstate the action of the clutches are instructive and interesting.

Much care has apparently gone into the making of this booklet. It is written in non-technical language. The book goes beyond the scope of the ordinary type of descriptive literature in that it helps the designing engineer to solve those problems presented by present-day selling requirements in the machine field.

A copy of "Keeping Pace with Machine Design" will be sent free upon request to Cutler-Hammer, Inc.

Wood Pulp Container Meets With Success

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., June 12, 1931.—C. A. Morgan, manager of the folding box department of the Stettler Manufacturing company, Portland, Ore., says that the new paper shipping container invented by the company for shipping fruit, is meeting with wide popularity although it has been on the market less than two months.

This container is made of solid wood pulp in standard sizes, paraffined and waterproof, odorless, strong enough to resist breaks or cracking of any kind, thus preserving the fruit in perfect conditions. The container is being patented.

New Reliance Motor Catalog

Reliance Electric and Engineering Company, of Cleveland, Ohio, has just published a new bulletin on Type T Heavy-Duty Reliance Motors for Direct Current. The complete motor embodies the combined ideas of men who have had unusual opportunities to learn the need for quality and strength in every detail. The bulletin contains many illustrations and tables of ratings.

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, June 17, 1931.

Conditions in the local paper market are practically unchanged. Demand for the various standard grades of paper is only moderately active. Inquiries for future needs, however, are fairly numerous and sales forces of the leading paper organizations are inclined to be optimistic.

Production of news print paper was maintained at 66.4 per cent of capacity in North America during May, according to information gathered by the News Print Service Bureau. Stocks of news print paper at Canadian and United States mills at the end of May totalled 72,918 tons, which was equivalent to four days average output.

The position of the paper board market is practically unchanged. No further price changes have been reported. Demand for the various grades of fine paper is mostly seasonal. Tissues are moving in fair volume. The coarse paper market is irregular, although prices are holding up fairly well.

Mechanical Pulp

Trading in the ground wood market was rather restricted during the past week. Shipments against contract are moving with fair regularity, considering the prevailing business depression. Quotations on both imported and domestic mechanical pulp are generally holding to formerly quoted levels.

Chemical Pulp

The chemical pulp market is exhibiting a slightly stronger trend. Stocks at the docks are reported to be somewhat lower. The contract movement is fairly satisfactory. There are a moderate number of inquiries around for future needs. Prices are generally holding to the recently revised schedule.

Old Rope and Bagging

Little interest is being displayed at present by the paper mills in the old rope market. Demand for both domestic and foreign old manila rope is light. Small mixed rope continues dull. The bagging market is fairly active. Scrap and gunny bagging are steady. Foreign roofing bagging is in good request.

Rags

Most of the business transacted in the domestic rag market was along routine lines. Cotton rags are only moderately active. Domestic roofing rags are in seasonal request. Mixed rags continue quiet. Conditions in the imported rag market are unchanged. The roofing grades are arousing some interest. Prices are nominal.

Waste Paper

No. 1 mixed paper continues in excellent demand from the board mills. Nevertheless, with this exception, the lower grades of paper stock continue quiet. Old kraft machine compressed bales are in fair request. The better grades of waste paper are holding up as well as can be expected at this time of year.

Twine

The local twine market continues to display a steady tone. Demand for the various grades is fairly satisfactory and supplies are moving into consumption in good volume for the season. Prices are generally holding to formerly quoted levels, despite keen competition for desirable orders.

Awards for Government Paper

WASHINGTON, D. C., June 17, 1931.—The Government Printing Office has received the following bids for 4,000 pounds of No. 1 gummed kraft paper in 24-inch rolls: Herbert Lindemeyer, 8.9 cents per pound; R. P. Andrews Paper Company, 7.98 cents; Charles G. Stott & Co., Inc., 8.65 cents; Mathers-Lamm Paper Company, 8.6 cents; Virginia Paper Company, 11.5 cents; Old Dominion Paper Company, 8.99 cents; Reese & Reese, Inc., 7.85 cents and 9 cents; Perkins-Goodwin Company, 8.48 cents; Walker-Goulard Plehn Company, 12 cents; Cauthorne Paper Company, 7.98 cents; and Barton, Duer & Koch Paper Company, 8 cents.

For 20,000 sheets of 11 x 13 manila tissue paper: Wilkinson-Grey Company, at 55 cents per M sheets; Reese & Reese, Inc., 72 cents; and Mathers-Lamm Paper Company, 37.35 cents.

Paper From Grasses and Bamboo

The possibilities of grasses and bamboo as important materials for paper making are freely discussed in "The Digestion of Grasses and Bamboo for Paper-Making," a new work just published by Crosby Lockwood & Son, Stationers' Hall Court, Ludgate Hill, London, E. C.

W. Raitt, the author, was formerly cellulose expert to the Government of India, and has spent a quarter of a century in studying the digestion of grasses and the discovery of new species to digest. In this work he begins with a discussion of the occurrence, composition, and character of the grasses dealt with, and ends with their reduction to pulp.

The book is illustrated with microphotographs by L. N. Seaman, wood technologist at the Forest Research Institute, India, and also contains a foreword by R. H. Clapperton. The published price of the book is twenty-one shillings.

New Valley Iron Works Bulletin

Laboratory equipment manufactured by the Valley Iron Works Company, builders of machinery for paper and pulp mills, of Appleton, Wis., is comprehensively described and profusely illustrated in a new bulletin, just issued. Sections of the bulletin are devoted to semi-commercial equipment, testing strength and development of pulp, Valley Niagara experimental beater with washer cylinder, laboratory beater data, Valley Holland experimental beater, controlled bed plate for experimental beaters, Valley laboratory Jordan, Valley sheet mould, Valley hydraulic press, Valley hot plate, Valley drying oven, Valley laboratory flat screen, Valley size tester, etc.

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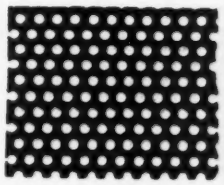

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, June 17, 1931.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Shipments against contract are normal. The pulp is quoted at from $42.50 to $45 a ton; while the powder is selling at from 3¾ to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. The contract movement is fairly satisfactory. Prices are holding to previously recorded levels. Bleaching powder is quoted at from $2 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues quiet. Domestic standard ground is still quoted at 7 cents and finely ground at 8½ cents per pound. Argentine standard ground is selling at 9 cents and finely ground at 10 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is restricted. Prices are generally holding to schedule. Solid caustic soda is still quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying a steady trend. Prices are holding to former levels. Imported china clay is quoted at from $13 to $21 per ton, ship side; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Trading in the chlorine market is fairly active. Contract shipments are going forward in good volume. Prices are holding to schedule, in most instances. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in large drums, at works.

ROSIN.—The rosin market continues steady. Grades of gum rosin used in the paper mills are quoted at from $5.60 to $6.25 per 280 pounds, in barrels, at yards. Wood rosin is selling at $4.30 per 280 pounds, in barrels, car lot quantities, at southern shipping points.

SALT CAKE.—Supplies of salt cake are going forward to the mills in moderate volume. Prices remain unchanged. Salt Cake is quoted at from $16 to $17; German salt cake at from $15.50 to $16; and chrome salt cake at from $14 to $15 per ton, in bulk, at works.

SODA ASH.—Conditions in the soda ash market are fairly satisfactory. The contract movement is well up to average. Prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.15; and in barrels, $1.38.

STARCH.—Most of the business transacted in the starch market during the past week was along routine lines. Contract shipments are going forward with regularity. Special paper making starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Offerings of sulphate of alumina are sufficient to take care of current needs. Prices remain unchanged. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues dull. Prices are steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—No radical changes were recorded in the talc market. The contract movement is seasonal. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	6.75	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	6.75	@	11.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	5.00	@	—
Coated and Enamel	6.75	@	10.25
Lithograph	7.25	@	11.75
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¾	@	—

(Delivered New York)

News, per ton—			
Rolls, contract	57.00	@	—
Rolls, spot	57.00	@	—
Sheets	62.00	@	—
Side Runs	42.00	@	46.00
Kraft—			
No. 1 Domestic	4.25	@	5.30
No. 2 Domestic	3.50	@	4.00
Southern	3.50	@	4.00
Imported	6.00	@	7.00
Boards—per ton—			
News	30.00	@	32.50
Straw	40.00	@	45.00
Chip	27.50	@	30.00
Binders' Boards	65.00	@	70.00
Standard 85 Test Liner	32.50	@	35.00
Sgl. Mla. Ll. Chip	40.00	@	42.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	27.00	@	30.00
Dry	30.00	@	34.00

(F. o. b. Mill)

No. 1 Domestic	25.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.50	@	3.50
Easy Bleaching	2.15	@	2.35
No. 1 strong unbleached	1.90	@	2.35
Mitscherlich unbleached	2.05	@	2.25
No. 2 strong unbleached	1.80	@	2.00
No. 1 Kraft	1.40	@	1.70
No. 2 Kraft	1.35	@	1.55
Sulphate—			
Bleached	2.75	@	3.25

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.25	@	4.75
Easy Bleaching	2.55	@	2.75
News	1.80	@	2.50
Mitscherlich	2.40	@	3.00
Kraft (Domestic)	1.60	@	2.75

(Delivered Paper Mills)

Soda Bleached	3.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	7.00	@	7.45
New White, No. 2	6.00	@	6.50
Silesias No. 1	5.25	@	5.50
New Unbleached	7.25	@	7.75
New Blue Prints	4.00	@	4.50
New Soft Blacks	3.50	@	4.00
Blue Overall	5.25	@	5.50
Fancy	3.75	@	4.00
Washables	3.50	@	3.75
Mixed Khaki Cuttings	4.00	@	4.50
Pink Corset Cuttings	6.00	@	6.50
O. D. Khaki Cuttings	5.00	@	5.25
Men's Corduroy	3.00	@	3.50
New Mixed Blacks	3.00	@	3.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@	2.15
New Mixed Cuttings	2.10	@	2.40
New Light Silesias	5.00	@	5.38
Light Flannelettes	5.00	@	5.25
Unbleached Cuttings	7.00	@	7.50
New White Cuttings	6.50	@	6.75
New Light Oxfords	5.00	@	5.50
New Light Prints	3.50	@	3.75

Old Rags

No. 1 White Linens	6.50	@	6.75
No. 2 White Linens	5.75	@	5.25
No. 3 White Linens	4.00	@	4.50
No. 4 White Linens	2.50	@	3.00
No. 1 White Cotton	4.50	@	5.00
No. 2 White Cotton	3.50	@	4.25
No. 3 White Cotton	2.50	@	3.25
No. 4 White Cotton	1.50	@	1.75
Extra Light Prints	2.50	@	2.75
Ord. Light Prints	2.00	@	2.25
Med. Light Prints	1.65	@	1.75
Dutch Blue Cottons	1.80	@	1.90
French Blue Linens	2.50	@	2.60
German Blue Linens	2.25	@	2.40
German Blue Cottons	1.75	@	1.85
Checks and Blues	1.60	@	1.75
Lindsay Garments	1.10	@	1.20
Dark Cottons	.75	@	.80
Old Shopperies	.70	@	.75
New Shopperies	.70	@	.75
French Blues	1.80	@	1.90

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.65	@	1.80
Domestic	1.65	@	1.80
Wool Tares, light	1.25	@	1.30
Wool Tares, heavy	1.25	@	1.30
Bright Bagging	1.20	@	1.30
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	2.00	@	2.15
Domestic	2.10	@	2.25
New Burlap Cut	1.80	@	1.90
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.75	@	2.85
Hard, white, No. 2	2.20	@	2.30
Soft, white, No. 1	2.20	@	2.30
White envelope cuttings	2.50	@	2.60
Flat Stock—			
Stitchless	.80	@	.90
Overissue Mag	.80	@	.90
Solid Flat Book	.75	@	.85
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.80	@	.85
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	2.00	@	2.20
New Cuttings	1.50	@	1.65
Extra No. 1 old	1.20	@	1.30
Print	.50	@	.60
Bogus Wrapper	.50	@	.60
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.60	@	1.70
Strictly Overissue	.35	@	.40
Strictly Folded	.28	@	.33
No. 1 Mixed Paper	.15	@	.25
Common Paper			Nominal

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Twines

(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.32	@	.34
No. 1	.22	@	.24
No. 2	.21	@	.22
No. 3	.19	@	.20
A. Italian, 18 basis	.38	@	.39
Finished Jute—			
Dark, 18 basis	.20½	@	.21
Light, 18 basis	.22½	@	—
Jute Wrapping, 3-6 Ply—			
No. 1	.14¼	@	—
No. 2	.13¾	@	—
Tube Rope—			
4-ply and larger	.10¾	@	—
Fine Tube Rope—			
4-ply	.12¾	@	—
3-ply	.13¼	@	—
2-ply	.14¼	@	—
Paper Makers Twine			
Balls	.08¾	@	—
Box Twine, 2-3 ply	.09	@	.10
Jute Rope	.11	@	.12
Amer. Hemp, 6	.29	@	.31
Java Sisal—			
No. 1 Basis	.12	@	—
No. 2 Basis	.11¾	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Twine	.22½	@	.24½

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.30	@	.53¾
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.25	@	1.35
New Kraft Cuts	1.35	@	1.45
Manila Env. Cuts	1.50	@	1.55
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.07	@	.40
Writings—			
Superfine	.12	@	.18
Extra fine	.16	@	.22
Fine	.15	@	.26
Fine, No. 2	.13½	@	.25
Fine, No. 3	.08½	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.08	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03¼	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03½	@	.04
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	62.00	@	—
Straw Board	50.00	@	—
News Board	32.50	@	—
Chip Board	30.00	@	—
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00	@	—
No. 2, per ton	68.00	@	—
Carload lots	66.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.06	@	.07
New White, No. 2.	.05½	@	.06
Light Silesias	.05	@	.05½
Silesias, No. 1	.06	@	.08
Black Silesias, soft.	.05	@	—
New Unbleached	.06½	@	.07
Washable, No. 1	.03	@	.03½
Blue Overall	.05	@	.05½
Cottons—According to grades—			
Washable, No. 2	.02	@	.02½
New Blue	.02	@	.02½
Fancy	.03½	@	—
New Black Soft	.03	@	.03½
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed.	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	2.50	@	3.00
M. G.	4.50	@	—
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.75	@	2.00
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.50	@	2.75
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.50	@	2.60
No. 2 Hard White	2.10	@	2.25
No. 1 Soft White	2.15	@	2.25
No. 2 Soft White	1.35	@	1.50
No. 1 Mixed	.80	@	.90
No. 2 Mixed	.55	@	.65
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.15
No. 2 Books, light	.90	@	.95
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.40	@	1.50
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.15	@	1.20
Common Paper	.25	@	.30
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.40	@	.45
Old Newspaper	.25	@	.30

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03½	@	.04¼

(F. o. b. Boston)

Southern Kraft	.03½	@	.03¾

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	61.50	@	—
Straw Board, rolls	.009	—	@52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	32.50	@	—
Chip Board	27.50	@	—
Chip Board (Creasing)	32.50	@	—
Single Manila Lined Chip	40.00	@	45.00
Single White, Patent Coated News Board—			
Binder, No. 1	60.00	@	75.00
Binder, No. 2	55.00	@	65.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	67.50	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.25	@	2.40
No. 2 Mixed	.60	@	.65
No. 1 Mixed	.90	@	1.00
Solid Ledger Books	1.75	@	2.00
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.75	@	.90
No. 1 Books, light	.55	@	.70
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	—	@	1.10
Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.16
Overissue News	—	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.16	@	.20
Corrugated Boxes	.35	@	.45

Bagging

(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.80
Domestic	1.60	@	1.70
Manila Rope—			
Foreign	—	@	2.00
Domestic	2.50	@	—
Transmission Rope	1.75	@	—
Mixed Strings	—	@	.70
Jute Rope	1.25	@	—
Jute Carpet Threads	.90	@	1.05
Bleachery Burlap	—	@	3.25
No. 1 Scrap Burlap	—	@	1.25
Scrap Sisal	1.40	@	1.50
Scrap Sisal for shredding	1.50	@	1.60
Wool Tares, heavy	1.30	@	—
New Burlap Cutting	1.75	@	2.00
Australian Pouches	2.50	@	—
Heavy Baling Bagging	—	@	1.75
Paper Mill Bagging	.95	@	1.10
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.06½	@	.07
New White No. 2.	—	@	.06
Silesias No. 1	.06	@	.06¼
New Black Silesias	.02½	@	.02¾
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades—			
Blue Overalls	.05	@	.06
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.50	@	2.75
Thirds and Blues—			
Repacked	1.60	@	1.80
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	.75	@	.80
No. 2	.65	@	.70
No. 3	.50	@	.60

Foreign Rags

(F. o. b. Boston)

Dark Cottons	—	@	.75
New No. 1 White Shirt Cuttings	7.75	@	8.00
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.65	@	1.75
Old Linsey Garments	.85	@	.95

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.09¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.09½	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.12½	@	7.60
No. 2 M. F. (carloads)	6.90	@	7.35
No. 3 M. F. (carloads)	6.65	@	7.15
No. 1 S. C. (carloads)	7.60	@	8.10
No. 2 S. C. (carloads)	7.35	@	7.85
No. 3 S. C. (carloads)	7.12½	@	7.60
No. 4 S. C. (carloads)	5.95	@	6.40
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	70.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

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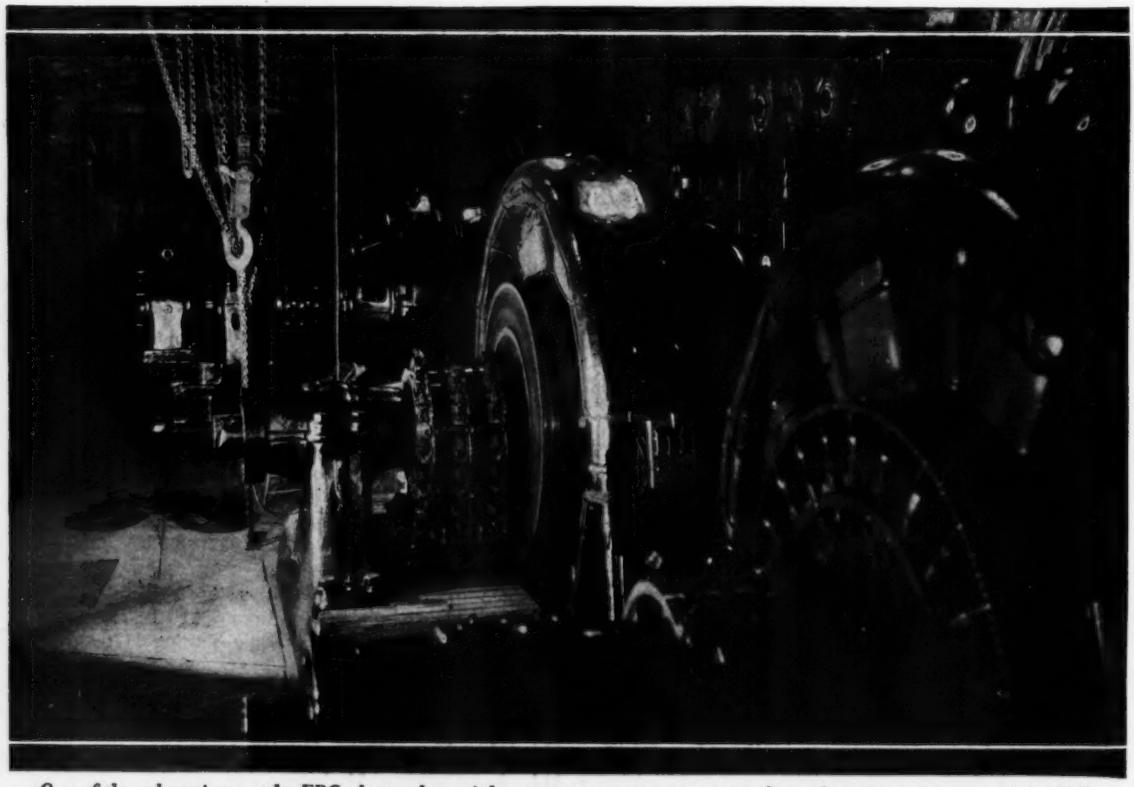

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